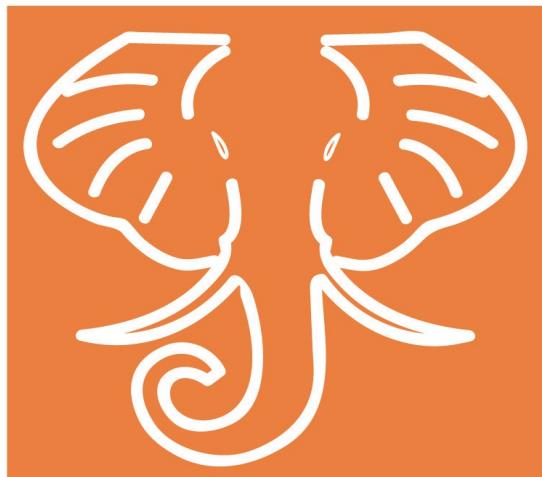


## **Museum notes.**

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MUSEUM NOTES  
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# THE POSTHUMOUS ALEXANDER COINAGE OF CHIOS

(PLATES 1-17)

ROBERT BAUSLAUGH

There has never been a comprehensive study of the posthumous Alexander coinage of Chios.<sup>1</sup> The widely cited study of J. Mavrogordato provides only a partial list of tetradrachm varieties and is actually little more than a restatement of L. Mueller's pioneer work of 1855.<sup>2</sup> The inadequacy of this situation is compounded by the inaccuracy of Mavrogordato's chronology and by the existence of Chian Alexander drachms and staters, omitted from his publication.<sup>3</sup> These issues have not been previously studied; and neither their dates nor their relationship to the tetradrachm coinage has ever been established.

This paper presents a reexamination of the Chian Alexanders based on approximately 325 drachms, tetradrachms, and staters. Since the

<sup>1</sup> I am indebted to Margaret Thompson and Nancy Waggoner for their supervision and encouragement during the preparation of this paper; to the Graduate Division of the University of California, Berkeley, for a travel grant which allowed me to visit European collections during the summer of 1973; and to the curators who have assisted me: G. Dembski (Vienna), C. M. Kraay (Oxford), H. Kuethman (Munich), G. Le Rider (Paris), O. Mørkholm (Copenhagen), M. Oeconomides (Athens), N. Olçay (Istanbul), M. Price (London), H-D Schultz (Berlin), A. Walker (Athens, Agora Mus.), and U. Westermark (Stockholm). I also wish to thank Erich Gruen, Martin Price and Malcolm Wallace for the comments on earlier drafts of this paper.

<sup>2</sup> J. Mavrogordato "A Chronological Arrangement of the Coins of Chios, Part III," NC 1916, pp. 297-307, 324-30; cited hereafter as Mav. L. Mueller, *Numismatique d'Alexandre le Grand*, vol. 1 (Copenhagen, 1855), pp. 252-3; vol. 2, nos 1080-25, 1252 (tetradrachms); vol. 1, pp. 322-23, vol. 2, nos. 1530-34 (drachms); cited hereafter as M.

<sup>3</sup> Mav., p. 297, accepted the then current dating of 190-88 B.C. for all the Alexander issues. See e.g. *BMC Ionia*, pp. xlvi-xlix; *HN*, p. 600 (though expressing the possibility of earlier issues); P. Gardner, "The Financial History of Ancient Chios," *JHS* 40 (1920), p. 173.

evidence points to four distinct periods, each is treated separately in the catalogue and commentary. All known obverse and reverse dies of all denominations have, however, been numbered consecutively throughout the study. Diagrams of the sequence of issues and die linkage in each period have been provided in Appendix 1. Appendix 2 illustrates the complex pattern of die linkage in the drachms of Period 1; Appendix 3 lists 34 hoards reported to contain Alexanders of Chios.

## CATALOGUE

### SYNOPSIS OF COINAGE

	<i>Specimens Known</i>	<i>Obv. Dies Known</i>	<i>Index Figure<sup>4</sup></i>	<i>Die Links</i>
<b>Period 1</b>				
Drachms	61	17	3.59	4
Tetradrachms	6	5	1.20	1
<b>Period 2</b>				
Drachms	3	3	1.00	0
Tetradrachms	79	25	3.16	4
Staters	2	2	1.00	0
Period 3	97	14	6.92	1
Period 4	82	33	2.48	2

### PERIOD 1

ca. 280–270 B.C.

#### (A) Drachms

*Obv.:* Head of Heracles in lion's skin, r.; border of dots.

*Rev.:* ΑΛΕΞΑΝΔΡΟΥ. Zeus enthroned, facing l., holding sceptre and eagle; no border; grape cluster and monograms as noted.

<sup>4</sup> The index figure of obverse die survival = specimens known (divided by) obv. dies known. See E. J. P. Raven, "Problems of the Earliest Owls of Athens," *Essays Robinson*, pp. 41-50.

Obv. and rev. dies numbered separately; x indicates that the die could not be studied; illustrated examples are marked with an asterisk; hoard and other provenances given in parentheses; identifications of Mueller (M) and Mavrogordato (Mav.) are listed.

- Series 1:       $\text{Ἁ}$  under throne.
- 1–1      \*Athens (Corinth 1938 Hd.; *ANSMN* 10 [1962] pl. 5, 212) 4.18 ↑; ANS-Fraleigh 4.21 ↑; ANS-ETN 3.82 ↑.
- Series 2:      To l.: (A)  $\text{Ἁ}$  (B)  $\text{Ἁ}$  M.: (A) 1532 (B) 1531
- (A) 1–2      Athens (Pergi 1955 Hd.; *BCH* 81 [1957] p. 497, pl. 9, 12); ANS (Mosul 1917 Hd.) 4.25 ↑; Berlin (Prokesch-Osten) 4.04 ↑
- 2–3      \*Athens ↑
- 3–4      \*ANS-ETN 3.97 ↑; Oxford (*SNGAshmolean* 2808) 4.17 ↑
- 4–5      Berlin (Imhoof-Blumer) 3.92 ↑; Paris R4289, 3.84 ↑
- 5–6      \*BM 792, 4.03 ↑
- 6–7      \*ANS-ETN (Armenak 1927 Hd.) 4.11 ↑
- (B) 1–8      *Hesperia Art Bulletin* 21, no. 26.
- 3–9      Copenhagen (*SNGCop Macedonia* 901) 4.09 ↑
- 4–10      Berlin (Prokesch-Osten) 4.26 ↑
- 4–11      Athens (Sophikon 1893 Hd.; no. 361; *JIAN* 1907, pl. 1, 4); Athens ↑; Cambridge (*SNGFitzwilliam* 4613) 4.00 ↑
- 4–12      \*Oxford (*SNGAshmolean* 2807) 4.14 ↑ (overstrike); Istanbul (Tell Halaf 1913 Hd.) 4.10 ↑; ANS-ETN 4.06 ↑; Munich 3.72 ↑; Paris R4287, 4.01 ↑
- 5–13      ANS (Mosul 1917 Hd.) 4.13 ↑; Athens (Agora Mus. NSB-437) 3.37 ↑
- 7–13      \*BM 791, 4.07 ↑ (overstrike).
- 8–14      \*ANS-ETN 4.10 ↑
- 9–15      Weber 2108 (Lord Bagot Sale 1884; Spink 1922) 4.19
- xx      (Urfa 1924 Hd.).
- Series 3:      To l.: (A)  $\text{Ἁ}$  (B)  $\text{Ἁ}$  (C)  $\text{Ἁ}$  M. (A) 1533
- (A) 4–16      BM 795.2, 3.99 ↑
- 6–17      ANS-ETN 3.96 ↑
- 6–18      \*BM 795.1, 4.24 ↑ (overstrike).

- x-18 Athens (Sophikon 1893 Hd., no. 362: obv. effaced).  
 7-19 \*ANS-ETN 4.13 ↑; ANS-ETN 3.82 ↑  
 7-20 Istanbul (Tell Halaf 1913 Hd.) 4.12 ↑  
 9-21 \*Istanbul 4.11 ↑  
 10-21 \*Paris R3736, 4.07 ↑; ANS-ETN 3.53 ↑; Copenhagen  
     (SNGCop Macedonia 902) 4.12 ↑  
 11-22 Berlin (Prokesch-Osten) 4.13 ↑  
 11-23 Yale (Bab 1944 Hd.; M. Thompson and A. Bellinger,  
     “Greek Coins in the Yale Collection, IV: A Hoard of  
     Alexander Drachms,” *Yale Classical Studies*, 14 [New  
     Haven, 1955], no. 84a); Berlin (Prokesch-Osten) 3.75 ↑  
 xx (Bab 1944 Hd.; 6 examples reported by Seyrig).  
 (C) xx (Bab 1944 Hd.; 4 examples reported by Seyrig).  
 (B) xx (Bab 1944 Hd.; 3 examples reported by Seyrig).
- Series 4:** To l.:  M.: 1534  
 6-24 P. Saraglos coll.  
 9-25 C. Hersh coll. 3.93  
 11-26 \*BM 793, 4.14 ↑; Berlin (Fox) 4.08 ↑ (overstrike).  
 12-24 \*Berlin (Fox) 4.18 ↑; Athens (Corinth 1938 Hd.;  
     ANSMN 10, pl. 5, 215) 3.98 ↑; ANS 4.20 ↑; Copenhagen  
     (SNGCop Macedonia 903) 4.13 ↑; Athens (So-  
     phikon 1893 Hd. no. 373) ↑  
 13-27 \*Berlin (Prokesch-Osten) 3.98 ↑  
 14-27 \*Bauer Coll.  
 x-28 Athens (Sophikon 1893 Hd.; obv. effaced).  
 xx (Bab 1944 Hd.; 1 example reported by Seyrig).
- Series 5:** To l.: (A)  (B)  M.: 1530  
 (A) 5-29 \*Navy 15, July 1930, no. 507, 4.15.  
 6-30 \*Athens (Corinth 1938 Hd.; ANSMN 10 [1962] pl. 5,  
     213) 4.17 ↑; Brit. Mus. 794, 4.18 ↑  
 15-31 \*Munich 22787, 3.71 ↑  
 16-32 \*ANS-ETN 4.10 ↑  
 xx Athens (Eretria 1937 Hd.).  
 (B) 17-33 \*Athens (Corinth 1938 Hd.; ANSMN 10 [1962] pl. 5,  
     214) 4.19 ↑

*Numismatic Commentary.* The attribution of these broad-flanned Alexander drachms is based on their stylistic similarity to the Chian tetradrachm issues and the presence of a grape cluster, commonly used as a civic device.<sup>5</sup> The 17 known obverse dies are very similar in style (see Plates 1–2); and all series are closely connected by a complex pattern of die linkage (see Appendix 2). Based on the evidence of obverses 5 and 6, it seems clear that during the peak of production (Series 2–4) several obverse dies were simultaneously in operation. If the survival rate of reverse dies were higher, further connections between the individual obverses and different series would no doubt appear, especially in the case of obverse 5. The present record is, however, sufficient to prove that the entire drachm issue was produced in little more than the lifetime of a single obverse die (obv. 5 or 6).

The arrangement adopted in the catalogue combines minor variations in the monogram types into single series and is ordered according to the signs of wear noticeable in the most extensively used dies. For example, a tiny, triangular break occurred in the lower mane of obverse 5 between its use in Series 3 (A) and Series 5 (see Plate 1, 5–6 and 5–29). Similar deterioration can be detected in obverse 6, which continued in service from Series 2 to 5 (see Plate 1, 6–7, 6–18, 6–30). These wear patterns support the stylistic conclusion that the single series with its monogram beneath the throne should be the initial issue, followed by those with the standard arrangement (compare Series 1 and 2, connected by obv. 1).

The uniformity of style, small number of distinct series, and the complex pattern of die linkage all point to the conclusion, previously

<sup>5</sup> See *HN*, pp. 599–602; *BMC Ionia*, pp. 328–46. On the attribution to Chios, see M. Thompson and A. Bellinger, "Greek Coins in the Yale Collection, IV: A Hoard of Alexander Drachms," *Yale Classical Studies* 14 (New Haven 1955), S. P. Noe, "The Corinth Hoard of 1938," *ANS MN* 10 (1962), pp. 29–30. A number of Alexander drachms thought to be Chian are either imitations or foreign issues wrongly assigned to Chios. Three imitations are illustrated on PLATE 2: (A) Bourgey Sale; (B) Berlin (Prokesch-Osten) 4.04 ↑; (C) Paris R4288, 3.98 ↑. Foreign issues include: Oxford (*SNG Ashmolean* 2806) 4.14 ↑  ; BM. 789, 3.99 ↑  ; BM. 790 ↑  . These examples belong to a stylistic group to which can be connected a tetradrachm issue (BM. 788, 16.76  ). The absence of civic emblem and the different style of this group rules out its attribution to Chios.

suggested by Thompson and Bellinger, that 2 or 3 years would have been adequate to strike the entire issue.<sup>6</sup>

*Hoards.* Of the 9 hoards reported to include drachms of Period 1 (see Appendix 3), only 2 are crucial for dating the issue: Armenak 1927 (*IGCH* 1423) and Pergi 1955 (*IGCH* 455). The Pergi 1955 hoard, in addition to 114 tetradrachms of Athens, contained 80 tetradrachms and 189 drachms with regnal types, including one drachm and one tetradrachm from Period 1 of Chios. In a letter to the American Numismatic Society, H. Seyrig evaluated the tetradrachms according to wear. The 31 Alexanders of the Macedonian helmet series associated with Antigonus Gonatas are rated 1–2, except for 4 rated 2–3; a single tetradrachm of Antigonus's own type is 2; 4 examples of Seleucus I and one of Antiochus I are 3–4; 12 from Lysimachus (only 2 certainly posthumous) are 3; and a single tetradrachm of Demetrius Poliorcetes is 3–4. The drachms were not evaluated by Seyrig, but consisted largely of Asia Minor issues of the fourth and very early third century. Only 4 Lysimachus drachms were present (2 Alexander types and 2 of his own).

Nothing in the datable material of the hoard suggests burial after ca. 260; and the date could even be earlier than 270, if the tetradrachm of Antiochus I belongs to the early issues of his reign (280–261).<sup>7</sup> The later date (ca. 250–200) assigned by Varoucha (*BCH* 81 [1957], p. 497) and narrowed in the *IGCH* 455: ca. 250–230 is almost certainly based on the assumption that the Chian Alexander drachm was struck after 250 and therefore compelled the hoard to be dated later than mid-third century.<sup>8</sup> There is, however, no reason to reject the evidence of the remaining material because of the assumed date of the Chian drachm. On the contrary, the contents of the Pergi hoard provide a firm terminus ante quem of ca. 260 for the Alexander drachms of Period 1.

<sup>6</sup> Thompson and Bellinger (above, n. 5) p. 40.

<sup>7</sup> This possibility has been suggested to me by M. Price and M. Thompson. See *ESM*, p. 250, nos. 727–28; pl. 54, 1–2.

<sup>8</sup> Thompson and Bellinger (above, n. 5), p. 40, doubt that the drachms could be before ca. 275 and cite Newell's arrangement of his examples as indicating a date of ca. 250–225.

A similar situation exists in regard to the Armenak 1927 hoard (*IGCH* 1423). Newell believed that the Chian drachm must be intrusive, because the remainder of the material pointed to a date of ca. 280 or a little later. The overwhelming bulk of the Alexander tetradrachms in the hoard belong to the Amphipolis issues of Cassander with torch symbol. None of the Macedonian helmet issues of Antigonus Gonatas are present; and little else in the hoard is indisputably later than the death of Lysimachus. The Chian drachm in question is in excellent condition (see Plate 1, 6–7). If it belongs to the hoard (and there is no objective reason for excluding it), the date of issue should be at the very end of Lysimachus's reign or shortly after his death.<sup>9</sup>

Evidence from the lifetime coinage of Lysimachus supports this dating. Drachms of Lysimachus own type often have broad flans;<sup>10</sup> and stylistic similarities can already be seen in Alexanders minted by Magnesia and Teos in the 290s.<sup>11</sup> It is, however, doubtful that the Chian drachms could have been struck before the death of Lysimachus in 281. Lysimachus strictly controlled the production of new coinage and after 297 enforced the use of his own types.<sup>12</sup> Any issuance of Alexander drachms at Chios would have violated this system. But since, as Newell has persuasively argued, not even Philetaerus dared to alter the established coinage before the defeat of Lysimachus,<sup>13</sup> there is no reason to suspect such independence on the part of the Chiāns.

The date close to 280 indicated by the Armenak hoard and supported by the Pergi hoard, the internal evidence for a duration of 2 or 3 years, and the strong likelihood that a coinage with Alexander types would not have been inaugurated while Lysimachus controlled

<sup>9</sup> See M. Thompson, "The Mints of Lysimachus," *Essays Robinson*, p. 163.

<sup>10</sup> Compare, for example, the Lysimachus-type drachm in the Gordian IV 1959 hoard (*IGCH* 1401: dated ca. 280), illustrated by D. H. Cox, "Gordian Hoards III, IV, V, and VII," *ANSMN* 12 (1966), pl. 8, 45, with the late fourth and very early third century Alexander drachms (pls. 6–8) or Sophikon 1893 (*IGCH* 179); J. N. Svoronos, *JIAN* 1907, pl. 1, 2 with the other hoard drachms on the same plate.

<sup>11</sup> Thompson (above, n. 9), pl. 18, 96–7 (Magnesia); pl. 19, 129 (Teos).

<sup>12</sup> Thompson (above, n. 9), pp. 165–68.

<sup>13</sup> E. T. Newell, *The Pergamene Mint under Philetaerus*, *ANSNNM* 76 (1936), pp. 6–8.

the region suggest that the drachms of Period 1 belong to roughly 280–275 B.C.

(B) *Tetradrachms*

*Obv.* and *rev.* types identical to the drachms, except for sphinxes added to the throne legs; border of dots on obv. of Series 6–7.

- |           |   |
|-----------|---|
| Series 6: | To l.: uncertain monogram. Grape bunch under throne.  |
| 18–34     | *(Jabukovac pre-1920 Hd.; <i>Starinar</i> 1969, p. 395, no. 15).  |
| Series 7: | To l.:  Sphinx r. under throne. M. 1108.   |
| 18–35     | *Hague 2876, 17.00.   |
| Series 8: | To l.  ? Amphora.  under throne.                  |
| 19–36     | *Athens (Pergi 1955 Hd.; <i>BCH</i> 81 [1957], p. 497, pl. 9, 10).  |
| Series 9: | To l.:  sphinx.  under throne. M. 1101 Mav. 59a |
| 20–37     | *ANS-ETN 16.98.   |
| 21–38     | *Berlin (Prokesch-Osten; <i>ZfN</i> 1869, p. 46, no. 207) 16.88.  |
| 22–39     | *Vienna.  |

*Numismatic Commentary.* While the Alexander tetradrachms of Chios can be easily recognized by their distinctive style and ever present grape bunch, sphinx, or amphora civic emblem,<sup>14</sup> specimens of Period 1 differ from later examples in the use of a smaller, thicker flan, which

<sup>14</sup> See above n. 5. Tetradrachms wrongly attributed to Chios include: Brit. Mus. 788 (above n. 5); M. 1086 and Mav., p. 305 (Sphinx, K = Perga); and a group of examples related to the Armenak 1927 hoard (*IGCH* 1423) specimens discussed below (Appendix 3, n. 2), which have small, thick flans, identical style, and a repetitive ΦΙ control below the throne: Princeton (sphinx, ,  below throne); Hague (same obv. as Princeton; shield with ΑΣ , ΦΙ below); Berlin (Prokesch-Osten; same obv.; Μ in wreath; Α below); Hague (same obv.; Μ in wreath, ΦΙ below); Athens (Saraglos; Μ in wreath; ΦΙ below); BM. (same obv. as Athens; shield with ΑΣ; , ΦΙ below). See M. 1480, 1473.

bears a more compact and carefully executed rendering of the types (compare Plates 3 and 4). In spite of their poor survival rate (1.20), Series 6–9 can be confidently arranged on the basis of the variety of reverse types, which reflects the evolution from the single monogram control system of Period 1 drachms to the dual controls used subsequently for all denominations (compare, e.g. drachms 17–33: Period 1 and 49–92: Period 2). In the initial series (6), a grape bunch appears beneath the throne; this is then replaced by a sphinx (7), which in turn yields to a monogram (8), accompanied at first by an amphora in the left field and then (9) by a sphinx (see Plate 3, 18–34, –35, 19–36, 20–37).

The progression toward the control system of Period 2 and later is also paralleled by the disappearance of the border of dots present on the drachm issues but discontinued with the introduction of dual controls.<sup>15</sup> This change, together with the development of the controls and the fact that there is no connection between the controls of the drachms and tetradrachms, suggests that the tetradrachms were introduced after the drachms and that Series 6 preserves the transition between issues.

As Seyrig has pointed out in his study of Parion, the tetradrachms of Period 1 belong to a regional stylistic group struck during roughly the first quarter of the third century B.C.<sup>16</sup> In addition to his list, which includes Lampsacus, Alexandria Troas, and Pergamum (as well as Parion and Chios), other nearby city-states like Magnesia, Colophon, Priene, and Erythrae also struck civic Alexanders during the period;<sup>17</sup> and, in particular, the issue from Erythrae bears a striking resemblance to Period 1 issues of Chios. Plate 3, A, illustrates a tetradrachm in the Fitzwilliam Museum at Cambridge (SNG 4494) which has the same

<sup>15</sup> Two drachm supplements of Period 2, Series 12 (A) and 19, also omit the obverse border of dots. See Plate 2, 48–91, 49–92.

<sup>16</sup> H. Seyrig, "Parion au 3<sup>e</sup> siècle avant notre ère," *ANSCent*, pp. 612–14. For comparison of Philetaerus' Alexanders dated 280–ca. 274 see Newell (above, n. 13), pp. 16–22.

<sup>17</sup> Thompson (above, n. 9), pl. 18, 96; pl. 19, 123. Compare the issue of Lampsacus (P. R. Franke, *AA* 1958, p. 42, no. 3; illustrated p. 46) in the Phyattus 1956 hoard (*IGCH* 159: dated ca. 264 [Franke], 260–240 [I. Varoucha]), which Franke assigns to "Anf. 3 Jh;" of Priene (below n. 22); and of an as yet uncertain mint, dated ca. 275 by Price (*SNGLewis* 517, which is die linked to Copenhagen *SNGCop* Macedonia 870). On Erythrae, see the following note.

**XE** secondary control as Chios, a club symbol, and **E** monogram in the left field. The club is a well known civic device of Erythrae and the city's name may even be represented in the **E** monogram (compare **M** on Alexanders of Miletus).<sup>18</sup> In addition to this remarkable stylistic affinity, there also appears to have been a related issue of drachms at Erythrae.<sup>19</sup> Although the exact meaning of this parallel production is uncertain, its existence may provide some further aid in calculating more accurately the date of these special Alexander issues.

*Hoards.* Period 1 tetradrachms occur in the Jabukovac pre-1920 (*IGCH* 447) and Pergi 1955 (*IGCH* 455) hoards (see Appendix 3). Although neither hoard can be very closely dated, both clearly belong prior to ca. 260 B.C.; and the Jabukovac hoard has been dated as early as ca. 280 (*IGCH* 447). Jabukovac, however, contains 12 Alexanders, including one example of the Macedonian helmet type associated with Antigonus Gonatas (ca. 277–239) and one of Antiochus I (Seleucia-ad-Tigrim; *ESM*, pp. 63–4, no. 162, pl. 15, 1). Both specimens are in very fresh condition, as is the Chian Alexander. On this evidence, the date of the hoard could be as late as ca. 260, if Newell's assignment of the Seleucid piece is followed, or possibly somewhat earlier, if the issue is actually from the beginning of Antiochus I's reign.

The date of the Pergi hoard has already been discussed. Since it falls between ca. 270–260, the traces of wear noticeable on the Chian specimen suggest that it was probably struck during the previous decade. Both hoards therefore point to a date within the decade of ca. 280–270 for the Period 1 tetradrachms.

*Historical Comments.* The decade between 280–270 was plagued by extreme political uncertainty.<sup>20</sup> The assassination of Seleucus I

<sup>18</sup> For the civic types of Erythrae, see *HN*, pp. 578–9; *BMC Ionia*, pp. 116–49. Note especially the close stylistic similarity of *BMC Ionia*, pl. 15, 14 and pl. 16, 3.

<sup>19</sup> Thompson and Bellinger (above, n. 5), p. 41, no. 99 (club, **XE**, **XE** below), which is die linked to Copenhagen *SNG Cop Macedonia* 991 (club, **XE** in wreath, **XE** below).

<sup>20</sup> For detailed historical treatment, see e.g. W. W. Tarn, *Cambridge Ancient History*, 7 (Cambridge, 1928), pp. 98–99, 701–4; *RRAM*, pp. 93–96; R. McShane, *The Foreign Policy of the Attalids* (Urbana, 1964), pp. 29–39; E. Will, *Histoire Politique du Monde Hellenistique* (Nancy, 1966), pp. 117–30.

within a year of his victory over Lysimachus occasioned a chaotic period of military conflicts during which a number of city-states and would-be dynasts battled to free themselves from Seleucid rule. A terrorizing Gallic invasion devastated Asia Minor from 277–275; and efforts by Antiochus I to end the Gallic menace and reestablish control were hindered by a prolonged war with Ptolemy II (ca. 276–272).

In a study of the Pergamene mint under Philetaerus, Newell has demonstrated how the political uncertainty of these years could be dramatically manifested in contemporary coinage.<sup>21</sup> Chios, Erythrae, and undoubtedly other city-states, although they lacked the wealth and military power of Pergamum, were faced with the same problem. They needed additional coined silver, but were reluctant to inaugurate new autonomous coinages. Adoption of the internationally accepted and politically neutral types of Alexander was the expedient chosen;<sup>22</sup> and once begun, the supplementation of the existing supply of Alexander types naturally tended to perpetuate itself.

The production of Alexander drachms at Chios (and Erythrae) is somewhat surprising, because the first quarter of the third century saw a cancellation of these previously plentiful issues by Lysimachus in favor of a tetradrachm coinage with only rare drachm supplements; and after his death, the city-states rarely produced any further Alexander drachms.<sup>23</sup> Civic issues of Alexander tetradrachms are, on the

<sup>21</sup> Newell (above, n. 13), pp. 6–34.

<sup>22</sup> Pergamum (Newell [above, n. 13], p. 15); Alexandria Troas (Seyrig [above, n. 16] p. 614), etc. Compare in particular the tetradrachm and drachm issues of Priene, dated by K. Regling, *Die Münzen von Priene* (Berlin, 1927), pp. 37–43, to ca. 230–190. However, three drachms are in the Armenak 1927 hoard (see Appendix 3 and above, p. 7) and the style of Regling's tetradrachm no. 37 (Regling, pl. 2) fits into the group under discussion. Furthermore, tetradrachms of Priene are found in the Jabukovac pre-1920 hoard (*IGCH* 447), dated ca. 275–260, and the Phyattus 1956 hoard (*IGCH* 159), dated ca. 264 and ca. 260–240 (see n. 17). The Jabukovac specimen (*Starinar* 1969, p. 395, no. 14) is struck from the same obverse die as Regling, no. 37. On the international acceptance of the Alexander type, see M. Rostovtzeff, "Some Remarks on the Monetary and Commercial Policy of the Seleucids and Attalids," *Anatolian Studies Presented to W. H. Buckler* (Manchester, 1938), pp. 282–84, 287–89.

<sup>23</sup> For Lysimachus' coinage, see Thompson (above, n. 9), pp. 165–68; in general, S. P. Noe, "The Corinth Hoard of 1938," *ANSMN* 10, p. 29. The overall lack of

other hand, fairly common after ca. 280. What is noteworthy about the Chian and Erythraean examples of the 270s is their apparently short duration and limited scale. The prolonged political uncertainty of the period is probably to a large extent responsible. However, since the numismatic evidence is both imprecise and poorly preserved, the exact relationship between the coinages and known historical events is hard to establish. For example, it seems clear that the death of Lysimachus set the stage for the original appearance of the Alexanders; but whether or not it was *the reason* for their inauguration is uncertain. Likewise, it would be attractive to conclude (but impossible to prove) that the drachm coinage at Chios was abandoned because of the greater financial needs created by the Gallic invasion of 277–275 and that the tetradrachms were begun at that time. If the same were true at Erythrae, the reestablishment of Seleucid influence resulting from Antiochus I's victory over the Gauls at Thyateira (275) might have been responsible for the apparently tiny volume of the Erythraean issue.<sup>24</sup>

PERIOD 2  
ca. 270–220 B.C.

(A) *Tetradrachms*

*Obv.* and *rev.* types as above; no borders; unless specified, reverses have a sphinx facing l. in the l. field.

post-280 Alexander drachms seems to be connected with the resumption of civic types for small denomination silver. For Ionia alone, the *BMC* assigns sub-tetradrachm weight issues to the period 300–190 at Ephesus, Erythrae, Magnesia, Miletus, Priene, Teos, and Samos. Mavrogordato also recognized that some of the civic type Chian drachms belonged to the third century (Mav., p. 284–96). These are no doubt the Chian drachms mentioned in the Delian Inventories at the end of the century; see J. R. Jones, "Some Numismatic Problems in the Delian Inscriptions," *ANSMN* 17 (1971), pp. 129–30.

<sup>24</sup> In an inscription possibly dated to this period, King Antiochus granted Erythrae a remission from the Galatika; see *OGIS*, no. 223 = C. B. Welles, *Royal Correspondence in the Hellenistic Period* (New Haven, 1934), no. 15. On the date, see *RRAM*, p. 928. The Galatika was "evidently a contribution either to the war-chest for campaigns against the Galatians or to the 'blackmail' collected to avert their depredations," *RRAM*, p. 830.

- Series 10: To l.: (A) (B) Δ under throne. M. 1100  
 (A) 23–40 \*Istanbul (Kizakli 1939 Hd.) 16.83 ↓; Paris 813 (*ANS Cent.*, pl. 42, E) 17.05 ↓; BM 800  
     16.92 ↓  
 (B) 23–41 \*Damascus.
- Series 11: To l.: . A under throne. M. 1105  
 24–42 \*Vienna 16.80.
- Series 12: To l.: (A) (B) . A under throne.  
 (A) 24–43 ANS-ETN 15.51 ↑  
     24–44 Paris R3998, 16.87 ↓  
     x–45 Berlin (Prokesch-Osten) 16.66 ↑ (obv. effaced).  
 (B) 24–46 \*ANS-ETN 16.82 ↓.  
     25–47 Hermitage; (Southern Asia Minor 1963 Hd.; C. Boehringer, *Zur Chronologie mittelhellenistischer Münzserien 220–160 v. Chr.* [Berlin, 1972; hereafter cited as *Chronologie*], pl. 25, 1) 16.93 ↑  
 (For drachm issue, see below 48–91).
- Series 13: To l.: . A under throne.  
 25–48 \*ANS-ETN 16.92 ↓
- Series 14: To l.: . A under throne. M. 1106.  
 25–49 \*Oxford (*SNG Ashmolean* 2809) 17.04 ↓; BM 799,  
     16.91 ↓  
 (For stater issue, see below 51–94).
- Series 15: To l.: (A) (B) . A under throne.  
 (A) 26–50 \*ANS-Storrs 16.42 ↓  
 (B) 26–51 Milan 1035.
- Series 16: To l.: . A under throne. M. 1104  
 27–52 \*BM 798, 16.95 ↓  
 27–53 M. Chiha coll. (ANS Photo).
- Series 17: To l.: (A) (B) (C) no sphinx. M. 1252  
 (A) 27–54 \*ANS-Gans (1954) 16.52 ↑; BM 797.2, 16.93 ↓; Paris R4001, 16.93 ↑; Copenhagen (*SNG Cop Macedonia* 753) 16.96 ↑; Berlin (Prokesch-Osten) 16.65 ↑

- 28–54 \*Vienna 16.82  
 (B) 28–55 Beirut Mus.; ANS cast, 16.61 ↑  
 (C) 28–56 Hermitage; BM 797.1, 16.61 ↗; Athens (*SNGEvelepidis* 1396) 16.90 ↑
- Series 18:  
 28–57 To l.: Σ. Sphinx r. (?) Σ under throne. Mav. 59a  
 \*ANS-Gans (1949) 16.94↑; BM 796 (*NC* 1916, pl. 10, 11) 16.82 ↑  
 29–57 \*Athens (Sparta 1908 Hd.; *BSA* 14 [1908], pl. 5, 3) 16.05 ↑
- Series 19:  
 28–58 To l.:  Sphinx r. (?). Σ under throne.  
 ANS-H.A. Dietz 15.81 ↑  
 30–59 \*Athens (P. Saraglos coll.); Paris R3991 (Ratto 1927, no. 668; *Münzen und Medaillen*, June 1954, pl. 41, 1110) 16.42 ↑  
 31–60 \*Kirchner coll.
- (For drachm issue, see below 49–92; stater issue, below 52–95.)
- Series 20:  
 28–61 To l.:  Sphinx r. (?) Σ under throne.  
 ANS (Poladian 1951) 16.43 ↑  
 30–62 ANS-ETN 16.76 ↑
- Series 21:  
 32–63 To l.:  Sphinx r. (?) Σ under throne. M. 1102  
 \*Turin 16.76
- Series 22:  
 (A) 33–64 To l.: (A)  (B)  (C)  . Σ under throne.  
 ANS-ETN 16.92 ↑  
 (B) 33–65 H. M. F. Schulman coll. 16.75.  
 (C) 33–66 \*ANS Miller 16.96 ↑
- Series 23:  
 33–67 To l.:  . Σ under throne. M. 1095  
 Hague 16.95; Ankara (Gordion 5, 1961 Hd.; *ANSMN* 12 [1966], pl. 9, 15) 16.35 ↑; BM 803, 15.54 ↑; Vienna.
- Series 24:  
 34–68 To l.:  . Σ under throne.  
 \*Berlin (Imhoof Blumer) 16.41 ↑
- Series 25:  
 35–69 To l.: EY. Σ under throne.  
 \*Paris R3999, 16.56; Istanbul (Mektepini 1956 Hd., no. 307) 16.90 ↑

- 35-70 Copenhagen (Tell Kotchek 1952 Hd.; Baldwin 1972; anchor countermark) 16.33 ↑
- Series 26:** To l.: **ΔΙ.** **¶** under throne.  
 35-71 ANS-ETN (Northwestern Asia Minor 1929 Hd.)  
 16.95 ↑
- Series 27:** To l.: **¶.** **Γ** under throne.  
 35-72 \*Hague 2878, 16.80
- Series 28:** To l.: **ΞΕ** **Γ** under throne. M. 1094  
 35-73 ANS-ETN 16.24 ↑
- Series 29:** To l.: (A) **ꝝ** (B) **Σ**. (A) nothing (B) **Γ** under throne.  
 M. (A)1091; Mav. 59a  
 (A) 35-74 \*Berlin (Prokesch Osten; *ZfN* 1869, p. 46, no. 206)  
 16.43 ↑  
 36-74 \*Hague 2881, 16.85.  
 (B) 36-75 \*Paris R4004, 16.93 ↑; Berlin (Imhoof-Blumer) 16.90 ↑
- Series 30:** To l.: (A) **Ἁ** (B) **Ⓐ**. (A) **Γ** (B) **¶** under throne.  
 (A) 37-76 \*ANS-ETN 16.15 ↑  
 (B) 38-77 \*ANS-ETN 17.12 ↑
- Series 31:** To l.: **Ϛ.** **Γ** under throne. Mav. 59a  
 39-78 \*ANS-ETN (Northwestern Asia Minor 1929 Hd.)  
 16.90 ↑; Berlin (Prokesch-Osten; *NC* 1916, pl. 10, 10)  
 16.49 ↑  
 39-79 Copenhagen (Kress 135, March 15, 1966, no. 135)  
 16.94 ↑
- Series 32:** To l.: **ΑΝ**  
 39-80 ANS-ETN 15.91 ↑; ANS (Poladian 1951) 16.53 ↑
- Series 33:** To l.: **◎** Spinax r. (?). M. 1084, Mav. 59a.  
 40-81 BM 804, 17.02 ↑; Istanbul (Mektepini 1956 Hd., no. 309) 17.03 ↑  
 40-82 Paris R4002 (Ayaz-In 1953 Hd.: H. Seyrig, *Trésors du Levant* [Paris, 1973; hereafter cited as *Trésors*], pl. 13, 8.18) 16.90 ↑

- Series 34: To l.:  $\Delta$  (?) Sphinx r.  
 41–83 \*Istanbul (Mektepini 1956 Hd., no. 308) 16.82 ↑
- Series 35: To l.:  $\Delta$  Sphinx r.  $\Delta$  under throne. M. 1099; Mav. 59a  
 42–84 BM 802, 17.01 ↑; Paris R3987, 16.82 ↑
- Series 36: To l.:  $\Delta$  Sphinx r.  $\Delta$  under throne. M. 1098  
 43–85 BM 801, 17.09 ↑; Ankara (Gordion I 1951 Hd.; Cox,  
 pl. 2, 23) 15.98 ↑; *Hesperia Art Bulletin* 19, no. 45;  
 Paris 818, 16.13 ↑  
 43–86 Berlin (Prokesch-Osten) 16.34 ↑  
 xx (Northern Syria 1960 Hd.; *Trésors*, p. 23, no. 14).
- Series 37: No controls  
 43–87 \*(Syria 1959 Hd.; *Chronologie*, pl. 27,4) 17.04 ↑  
 44–87 \*Coin Gallery, Nov. 12/13, 1964, no. 446.
- Series 38: To l.:  $\Delta$   $\Delta E$   
 45–88 \*Paris 811, 16.98 ↑
- Series 39: To l.:  $\Delta$ .  $\Delta E$  under throne.  
 46–89 \*Hague 2879, 17.00.  
 (For possible drachm issue with Series 38–39, see below 50–93.)
- Series 40: To l.:  $\Delta$ . A (in exergue) under throne.  
 47–90 \*Hague 2875, 17.00.

(B) *Drachms:*

(*Obv.* and *rev.* types as drachms of Period 1; but sphinx and no border of dots on obv. or 48–91, 49–92.)

- [With Series 12 (A)]: To l.:  $\Delta$  Sphinx l. A under throne. M. 1107 (?)  
 48–91 \*Vienna.
- [With Series 19]: To l.:  $\Delta\Delta$  Sphinx r..  $\Sigma$  under throne.  
 49–92 \*Hague.
- [With Series 38–39]: (Grapes and lion's head in circle)  $\Delta E$   
 50–93 \*Berlin; Paris (*de Luynes* 1666) 3.99 ↑

(C) *Slaters:*

*Obv.:* Head of Athena r., wearing Corinthian helmet decorated with coiled snake.

*Rev.:* Nike facing r., holding wreath and trophy stand; in l. field sphinx and monogram; below at r. second monogram; no borders.

[With Series 14]: To l.: A under throne.

51–94 \*Athens (BCH 84 (1960), p. 501; pl. 10, 9) 8.50 ↑

[With Series 19]: To l.: Σ under throne.

52–95 \*ANS-ETN 8.48 ↑

#### NUMISMATIC COMMENTARY

*Tetradrachms.* Although modelled after the issues of Period 1, the initial tetradrachms of Period 2 are distinctly later in style (compare Plates 4 and 5). The flan size is noticeably larger; and the florid, seemingly careless, execution of the types contrasts sharply with the neat and compact style of the earlier issues. The portrait of Heracles grows increasingly corpulent; the lion's mane degenerates into a perfunctory series of alternating loops and waves; and Zeus, whose majesty was powerfully portrayed in the earlier reverses, becomes a slouching, mechanical figure.

The dual control system developed for the tetradrachms of Period 1 is retained and makes organization of the different series a simple matter. On the basis of repeated secondary controls (beneath the throne), several groups of series can be established and then arranged according to die linkage and stylistic development (see Sequence of Issues, Appendix 1). For example, the order of the A and Σ groups is clarified by a die break in reverse 54. This die is connected to obverse 27 which otherwise belongs to the A group and obverse 28 connected only with the Σ group. A crack joining the toe of the amphora and the top of Zeus's foot, which developed between the time the die was used with obverse 27 and obverse 28 proves that group A is earlier (see Plate 5, 27–54 and 28–54).

A noteworthy variation of the normal reverse arrangement occurs in Series 17. This series has an amphora and Σ in the left field and nothing beneath the throne. While recognizable as a substitute civic emblem, the amphora rarely appears by itself (only Series 8, Period 1)

and cannot, in this case, be explained as the result of introductory experimentation.

The repetitive obverse and reverse style of Series 10–24 begins to break down in Series 25. The new obverse style has a completely different treatment of the mane and Heracles knot; while the characteristic portrait is altered to give the appearance of outright obesity (see Plate 6, 35–69). On the reverse, the current secondary control, Η, continues from Series 24; but otherwise the elements are substantially altered (compare Plate 6, 34–68 and 35–69). Subsequent series display a mixture of old and new style dies, but after Series 30 (see Plate 7, 38–77) the older style is abandoned completely.

The tetradrachms of Series 31–40 display greater stylistic and organizational diversity. Obverse portraits vary greatly (see Plates 7–8). Controls are more haphazardly applied and even omitted altogether in one series (35).<sup>25</sup> There are also fewer distinct series (10 versus 21) and less die linkage between series (4 series out of 10 versus 16 of 21) than in the earlier group (10–30). These features suggest that the later series were produced on a smaller scale and more irregular basis than Series 10–30, although the poorer survival rate (20 specimens, 9 obv. dies = 2.22 versus Series 10–30, 59 specimens, 17 obv. dies = 3.47) may be partially at fault.

In summary, the initial series of Period 2, while modelled on the tetradrachms of the previous period, are easily distinguished by their repetitive, uninspired style, which is maintained from Series 10–24. The stylistic breakdown beginning in Series 25 is gradual and produces a mixture of old and new style dies (Series 25–30). Thereafter, the series have noticeably less artistic and organizational unity, perhaps reflecting a decline in both the volume and regularity of production.

*Drachms.* One possible (50–93 = Series 38–39?) and two definite (48–91 = Series 12 [A]; 49–92 = Series 19) issues of Alexander drachms can be assigned to this period. The latter share both the sphinx emblem and specific controls of the tetradrachm series as well as the absence

<sup>25</sup> Plate 8, 43–87, illustrates an example from the Syria 1959 hoard (*IGCH* 1535), published in *Chronologie*, p. 159, no. 4, with the attribution "Phokaia (?)." Die linkage to Chian Series 36 corrects this (see Plate 8, 43–86).

of a dotted border (see Plate 2). The ΜΕ control placed beneath the throne of 50–93 seems to connect it with Series 38–39; but since the circumscribed lion's head is not shared and the style is not closely related (note especially the border of dots), the association may be simply coincidental.

*Staters.* A sphinx emblem and identifiable controls found on two Alexander staters allow each to be connected with a tetradrachm series of Period 2 (51–94 = Series 14; 52–95 = Series 19).<sup>26</sup> In spite of its better style, 52–95 must be later than 51–94 (see Plate 2). There is no reason to disassociate it from Series 19; and the earlier position of the Α group is indisputable (see above, p. 16).

The definite connection between stater and tetradrachm issues at Chios provides new evidence in regard to the date of the Alexander staters of Alexandria Troas. In WSM, Newell first commented on the special issue of that city; and on the basis of its monograms, connected it with tetradrachm issues, which he dated early in the rule of Antiochus Hierax (ca. 241–228/7).<sup>27</sup> Subsequently, Seyrig argued that this stater issue should be dated after the defeat of Hierax and represented a manifestation of civic pride, expressed by the coining of commemorative gold staters.<sup>28</sup> In support of his case, Seyrig pointed out that a similar issue of gold staters from Lampsacus has the same monogram controls found on the latest tetradrachms struck under Hierax. He therefore concluded that the monogram connection at Alexandria Troas represented the same sequence and that both cities struck the staters after Hierax had fallen.

The parallel now recognizable at Chios undermines Seyrig's position. Because of their connection with tetradrachm Series 14 and 19, the Chian staters cannot possibly be dated as late as ca. 228/7 (see discussion under *Hoards* below). Furthermore, the existence of two stater issues, produced at different points in the tetradrachm series, makes

<sup>26</sup> The simple presence of a sphinx emblem is not necessarily proof of Chian origin. The ANS photograph files include one Alexander stater (Pitidis coll., Belmont, Mass.) with sphinx, Π in l., Λ in r. field, the style and controls of which are foreign to Chios. See also BM 1508, considered uncertain with the possibility of Perga.

<sup>27</sup> WSM, p. 340, pl. 73, A.

<sup>28</sup> H. Seyrig, "Monnaies Hellénistiques," *RN* 1969, pp. 37–39.

associating the staters with a single historical event difficult. It seems more likely that Newell was right in assigning the staters of Alexandria Troas to the earlier date where they matched the regular tetradrachm coinage.

*Hoards.* A random sample of Period 2 tetradrachms appears in hoards buried between ca. 235 and 190 (see Appendix 3, pp. 42–45). The earliest series (10) occurs in the Kizakli 1939 hoard (*IGCH* 1369); but the burial date of the hoard (ca. 235) must be considerably later than the date of issue, since the specimen (23–40) is noticeably worn (see Plate 4, 23–40). Similar signs of long circulation can be detected on the Series 12 (B) tetradrachm (25–47) in the Southern Asia Minor 1963 hoard (*IGCH* 1426) buried ca. 210–200.<sup>29</sup> These indications, together with the general stylistic similarity between the initial issues of Period 2 and those of Period 1, suggest that the beginning of Period 2 could be as early as ca. 270.

The latest issues can hardly have been struck after ca. 220. Although the hoard evidence is imprecise, Series 36 (43–85) and Series 37 (43–87) are present in hoards which may date as early as ca. 210; and the worn condition of late Period 2 series in the Mektepini and Ayaz-In hoards of ca. 190 contrasts so sharply with those of Period 3, datable to ca. 202/1–190, that a gap between periods of at least 20 years seems proper.<sup>30</sup>

*Historical Comments.* The roughly 50 years assigned to period 2 are among the most obscure in Greek history; and aside from stray bits of epigraphical and archaeological evidence (including the Alexander coinage), there is practically no historical information about Chios. Beloch suggested that the island was under “ptolemaischen Schutze” during the reign of Ptolemy II (285–246); and Meyer included it in the sphere of Ptolemy III (246–221); but Magie denied the existence of any

<sup>29</sup> See *Chronologie*, pl. 25, 1, with the date of issue for the Chian specimen estimated at ca. 275–250, p. 155.

<sup>30</sup> I have personally examined the Mektepini hoard in Istanbul. Nos. 307 (35–69), 308 (41–83), and 309 (40–81) show signs of wear comparable to the issues of Antigonus Gonatas (686–99) or Antiochus Hierax (192–93, 197–220, 287–88, 740–46). Seyrig's plates of the Ayaz-In hoard (*Trésors*, pls. 12–18) present the same pattern. In the catalogue (*Trésors*, p. 39), the rating of no. 18 “(t.b.)” and no. 19 “(b.)” are mistakenly reversed.

Ptolemaic control north of Samos; and the scanty epigraphical evidence involved favors his position.<sup>31</sup>

By mid-century the island had gained sufficient importance to be among the first states invited to celebrate the reorganized Soteria and sit in the Council of the Aetolian dominated Delphic Amphictyony.<sup>32</sup> The importance of this new alignment is contained in the promise of immunity from Aetolian piracy. For smaller commercial states like Chios, the safety of their merchant fleets could only be maintained through diplomatic means; and the protection from Aetolian freebooters must have provided a major competitive advantage to Chian merchants.<sup>33</sup>

The existence of a tetradrachm coinage supplemented by drachms and (or) staters according to extraordinary financial need and covering more or less the entire period of ca. 270–220 is also hard to reconcile with foreign domination of the island. While economic interests inevitably brought Chios into close relationship with the greater powers, the island's autonomy seems to have been preserved; and on the whole the period appears to have restored the island to its former prosperity.<sup>34</sup>

PERIOD 3  
ca. 202/1–190 B.C.

*Obv.* and *rev.* types as before; border of dots on obv.; sphinx l. in l. field of rev. unless specified; thunderbolt beneath sphinx in Series 54–56.

<sup>31</sup> See K. J. Beloch, *Griechische Geschichte*, 2nd ed. (Leipzig, 1927) 4: 2, p. 345; E. Meyer, *Die Grenzen der Hellenistischen Staaten in Kleinasien* (Leipzig, 1925), pp. 93; *RRAM*, pp. 930–31.

<sup>32</sup> See *SIG III*, nos. 402, 443. For discussion, see R. Flacelière, *Les Aitoliens à Delphes* (Paris, 1937), pp. 228–39; *RRAM*, pp. 937–38.

<sup>33</sup> See *SEH*, pp. 196–98, 1361–62.

<sup>34</sup> Chian trade and prosperity were often praised in the Classical period; e.g. Hdt. 1.65; Thuc. 8.24.4, 45.4; Arist., *Pol.*, 4.4. p. 1291B. In the third century, Callimachus noted that “many are the amphorae which come from wine-rich Chios cutting the Aegean sea” (*Frag.* 399, ll. 1341–42 Gow). It was apparently a luxury item enjoyed by the privileged classes; see P. M. Fraser, *Ptolemaic Alexandria* (Oxford, 1972), pp. 165–67, with nn. 272–73 (derived from the Amphora files of Virginia Grace in Athens). On Egyptian import of Chian wine and cheese, attested in 259 B.C., see Fraser, pp. 149–50, with n. 143. On the island's general commercial prosperity during the period, see *SEH*, p. 245.

- Series 41: To l.: (A) ♀ (B) ♂. (A) ⚡ under throne. M. (A) 1096? (B) 1082
- (A) 53-96 Istanbul (Mektepini 1956 Hd. no. 340) 17.15 ↑  
 53-97 Istanbul (Mektepini 1956 Hd. no. 341) 17.17 ↑; Paris  
 812, 16.79 ↑  
 53-98 \*Hague 2883, 16.65; Vienna 35765, 17.03 ↑  
 53-99 ANS-Storrs 17.15 ↑
- (B) 54-100 \*ANS-Storrs 16.45 ↑  
 54-101 Paris 815, 17.26 ↑  
 54-102 Berlin 17.09 ↑  
 55-103 Berlin (Imhoof-Blumer) 16.45 ↑
- Series 42: To l.: (A) ⚡ (B) ⚡. (A) Σ (B) Σ under throne.  
 Mav. 59B
- (A) 54-104 ANS-ETN 17.11 ↑  
 (B) 54-105 Istanbul (Mektepini 1956 Hd. no. 324) 16.87 ↑  
 55-106 \*BM 808, 16.21 ↑  
 x-107 C. Platt (ANS cast).
- Series 43: To l.: (A) ⚡ (B) ⚡
- (A) 54-108 Istanbul (Mektepini 1956 Hd. no. 323) 16.91 ↑  
 (B) 55-109 Istanbul (Mektepini 1956 Hd. no. 310) 16.99 ↑
- Series 44: To l.: \*
- \*Istanbul (Mektepini 1956 Hd. no. 322) 17.10 ↑  
 Istanbul (Mektepini 1956 Hd. no. 321) 17.05 ↑
- Series 45: To l.: ⚡. ⚡ under throne. Mav. 59B  
 55-111 Berlin (Prokesch-Osten; *ZfN* 1869, p. 46, no. 207)  
 16.98 ↑
- Series 46: To l.: ⚡
- 55-112 Istanbul (Mektepini 1956 Hd. no. 312) 17.04 ↑; Paris  
 R4000 (Saboundji-Pinar = Mektepini 1956 Hd. no.  
 313) 17.00 ↑
- Series 47: To l.: ⚡ M. 1006 Mav. 59B
- 55-113 Istanbul (Mektepini 1956 Hd. no. 314) 17.00 ↑  
 55-114 Cambridge (*SNG Fitzwilliam* 4611) 16.83 ↑

- 55-115 Paris R4006 (Saboundji-Pinar = Mektepini 1956 Hd. no. 320) 16.96 ↑  
 55-116 Istanbul (Mektepini 1956 Hd. no. 315-317) 17.05 ↗; 17.04 ↑; 17.12 ↑  
 55-117 Istanbul (Mektepini 1956 Hd. no. 318-319) 16.97 ↑; 17.00 ↑; Berlin (Prokesch-Osten) 16.65 ↑.  
 55-118 Cambridge (*McClean* 3466), 16.96 ↑  
 55-119 \*BM 806 (*NC* 1916, pl. 10, 12) 17.02 ↑; Turin 2531, 17.13 ↑  
 55-120 ANS-ETN 16.22 ↑  
 55-121 ANS 15.40 ↑  
 56-122 (Central Asia Minor 1963 Hd.; *Chronologie*, pl. 32, 2) 17.00  
 56-123 Paris (*de Luynes* 1655) 16.99 ↑
- Series 48: To l.: (A) (B) (C) . under throne. M. (A) 1097  
 (A) 55-124 Paris 819, 16.56 ↑  
 56-125 Istanbul (Mektepini 1956 Hd. no. 339) 17.02 ↑  
 (B) 55-126 Istanbul (Mektepini 1956 Hd. no. 311) 17.06 ↗; Paris (Ayaz In 1953 Hd.; *Trésors*, pl. 13, 8.20) 16.96 ↗; ANS-ETN 16.19 ↑  
 56-127 \*ANS-ETN (Allotte de la Fuÿe 1925) 16.95 ↑  
 (C) 56-128 BM 807, 16.75 ↑
- Series 49: To l.: (A) (B)
- (A) 55-129 \*Paris R3996 (Latakia 1946 Hd.; *Trésors*, pl. 11, 6.16) 16.55 ↑  
 (B) 55-130 Paris R3994, 15.70 ↑
- Series 50: To l.: (A) (B) . (A) under throne.
- (A) 56-131 Istanbul (Mektepini 1956 Hd. no. 328) 17.01 ↑  
 56-132 ANS-Noe 16.05 ↑; (Syria 1971 Hd.) 16.78  
 57-133 Glasgow (*Hunter* 201) 16.94  
 57-134 \*Istanbul (Mektepini 1956 Hd. no. 330) 17.11 ↑; Berlin (Loebbecke) 16.95 ↑  
 58-135 Istanbul (Mektepini 1956 Hd. no. 329) 17.03 ↑  
 58-136 ANS-ETN (Media 1923 Hd.) 16.82 ↑

- (B) 59–137      Paris 817, 16.24 ↑  
       59–138      Berlin 17.03 ↑
- Series 51:      To l.: (A)  (B) 
- (A) 57–139      Paris R3989 (Ayaz-In 1953 Hd.; *Trésors*, pl. 13, 8.19)  
       57–140      16.87 ↑  
       57–141      Istanbul (Mektepini 1956 Hd. no. 331) 17.05 ↑  
       xx            Istanbul (Mektepini 1956 Hd. no. 332) 17.03 ↑  
       (Latakia 1946 Hd.; *Trésors*, p. 30, no. 14) 16.81
- (B) 58–142      ANS-ETN (Homs 1934 Hd.) 13.71 ↑ (coin broken);  
       58–143      ANS-BYB (*SGANS* 318) 16.57 ↑  
       \*58–144      \*Istanbul (Mektepini 1956 Hd. no. 325, \* 326) 17.00 ↑  
       17.08 ↑  
       58–145      Istanbul (Mektepini 1956 Hd. no. 327) 17.07 ↑  
       58–146      Berlin (Babylon 1900 Hd.; *ZfN* 1928, p. 109, 35) 12.08 ↑  
       58–147      Berlin (Fox) 17.07 ↑  
       58–148      Berlin (Prokesch-Osten) 17.08 ↑  
       \*59–149      \*Paris R3988 (Kosseir 1949 Hd.; *Trésors*, pl. 11, 7.15)  
       16.71 ↑  
       xx            (Latakia 1946 Hd.; *Trésors*, p. 30, no. 15) 16.72  
       xx            Glasgow (*Hunter* 123) 17.13
- Series 52:      To l.: (A)  (B)  . A under throne.
- (A) 60–149      Istanbul (Mektepini 1956 Hd.; no. 335) 17.09 ↑; Berlin  
       (Loebbecke) 16.68 ↑  
       60–150      Paris 814, 15.77 ↑  
       60–151      (Syria 1971 Hd.) 17.01.
- (B) 60–152      Berlin (Prokesch-Osten) 17.03 ↑; Berlin (Prokesch  
       Osten) 16.89 ↑
- Series 53:      To l.: (A)  (B)  Thunderbolt. A under throne.
- (A) 60–153      \*Hague 2884, 17.00  
       xx            Glasgow (*Hunter* 202) 16.41
- (B) 60–154      (Syria 1971 Hd.) 16.77  
       61–155      Berlin (Prokesch-Osten) 17.05 ↑; Vienna 34880, 16.69 ↑  
       61–156      Berlin (Prokesch-Osten) 16.74 ↑  
       61–157      M. Chiha coll.

- Series 54: To l.: **ME**. Thunderbolt. M. 1089
- 61–158 \*Istanbul (Mektepini 1956 Hd. no. 334) 16.92 ↑
  - 61–159 Paris 816, 16.85 ↑
  - 62–160 \*Istanbul (Mektepini 1956 Hd. no. 333) 16.98 ↑
- Series 55: To l.: **K**. Thunderbolt.
- 63–161 \*Istanbul (Mektepini 1956 Hd. no. 336) 17.03 ↑
  - 63–162 Istanbul (Mektepini 1956 Hd. no. 337) 16.92 ↑
  - 63–163 Istanbul (Mektepini 1956 Hd. no. 338) 17.04 ↑
  - 63–164 Berlin (Prokesch-Osten) 14.79 ↑
  - 63–165 Paris R3990, 16.89 ↑
  - 64–166 \*ANS 16.65 ↑
  - 64–167 Beirut (S. Haddad coll.)
- Series 56: To l.: **ME**. Thunderbolt. M. 1083 Mav. 59B
- 64–168 (Central Asia Minor 1963 Hd.; *Chronologie*, pl. 32, 3)  
17.00
  - 65–169 BM 805, 16.94 ↑
  - 65–170 \*Oxford (SNG Ashmolean 2810) 16.50 ↑; Von Aulock  
SNG 6641) 17.13; Hermitage.
  - 66–171 \*Paris R3997 (Ayaz-In 1953 Hd.; *Trésors*, pl. 13,8.21)  
16.99 ↑.
  - 66–172 ANS-ETN 16.18 ↑.

*Numismatic Commentary.* The expanded, thinner flans, dotted border, and homogeneous style of Period 3 contrast sharply with the final series of Period 2 (compare Plates 8 and 9). Internally, the sequence of issues can be almost completely reconstructed from the extensive use of several obverse dies (see Appendix 1, obv. 54, 55, 56). For example, before obverse 55 was retired, it had served with at least 18 reverse dies and degenerated almost beyond recognition (see Plate 9, 55–106, –119, –129; and Plate 17). The pattern is similar for obverse 54 (see Plate 9, 54–100, –110).

Distinctive stylistic elements also differentiate the Period's earliest and latest reverse dies. At the outset, either a complete or partial exergue line was used together with a broken bar alpha, **Α**, in the legend (see Plate 9, 53–98, 54–100, 55–106). These features disap-

peared during the lifetime of obverse 55, but the regular format followed thereafter lasted only until obverse 60, at which point a thunderbolt was added beneath the sphinx (see Plate 10, 60–153). During Series 53–56 the thunderbolt is constant; and the initial reverses of Period 4 also have it (see Plate 11, 67–172, etc.).

Though not as concentrated as the drachms of Period 1, the tetradrachms of Period 3 appear to have been produced in rapid succession. None of the major stylistic changes which gradually took effect during Period 2 are present; the number of obverse dies is small;<sup>35</sup> die linkage and prolonged use of individual obverse dies connects almost all series; and the earliest through the latest issues appear together in hoards.

*Hoards.* Of the ten hoards containing tetradrachms of Period 3, the most important is Mektepini 1956 (*IGCH* 1410), buried ca. 190, which includes 32 examples, ranging from the first (41) through the second to last (55) series. Aside from the often worn state of obverse dies, the Mektepini coins are invariably in excellent condition; and there is no distinguishable difference in wear between the earliest and latest issues.<sup>36</sup>

Other hoards present the same picture. Kosseir 1949 (*IGCH* 1537), Syria 1971, Central Asia Minor 1963 (*IGCH* 1411), and Ayaz-In 1953 (*IGCH* 1413) have a scatter of specimens from Series 50–53, and 56 (the last issue), all of which show virtually no signs of wear.

Since a terminus ante quem is securely established from the Mektepini, Central Asia Minor and Ayaz-In hoards, the fresh condition of all the issues in ca. 190, together with the internal evidence for a short duration and the absence of Period 3 specimens from hoards datable to ca. 210–200, points to the decade of ca. 200–190 as roughly the length of the period.

Refinement of these dates is possible through a comparison of the contemporary Alexander coinage of Rhodes.<sup>37</sup> The numismatic record

<sup>35</sup> Period 3: 14, versus Period 2: 25, Period 4: 33.

<sup>36</sup> See H. Seyrig, N. Olçay, *Le Trésor de Mektepini en Phrygie* (Paris, 1965), pls. 14–15, nos. 310–40.

<sup>37</sup> See F. S. Kleiner, "The Alexander Tetradrachms of Pergamum and Rhodes," *ANSMN* 17 (1971), pp. 95–125. Kleiner's chronology for the Pergamene issues and his resulting historical conclusions are almost certainly wrong; see C. Boehringer, "Kommentare zur Literatur ueber Antike Numismatik I," *SNR* 53 (1974), pp. 16–

of the Rhodian Alexanders is virtually identical to Period 3 at Chios. Both early and late issues appear in the Mektepini hoard, all in unworn condition; the series are closely die linked; and the pattern of prolonged use of certain obverse dies occurs in the Rhodian series (see Plate 17). The only significant differences between the two mints occur in the volume and pattern of production. Rhodes used a minimum of 34 obverse dies in comparison to 14 at Chios; and although an elaborate system of monogram controls was employed at Chios, there is nothing comparable to the joint board of officials, which produced much of the Rhodian issue from a common pool of dies.<sup>38</sup> Since these elements have no effect on the basic similarities of the two coinages, the dates of ca. 202/1–190/89 assigned to the Rhodian issues should also hold for Chios.

*Historical Comments.* Historical considerations strongly support the chronology proposed for Period 3. In 202, Philip V undertook an expedition aimed at gaining control of the Black Sea trade route.<sup>39</sup> Lysimacheia in the Chersonese, Chalcedon on the Bosphorus, and Perinthus on the Propontis were forced to accept Macedonian alliance. The Propontine city of Cius was besieged, sacked, and its inhabitants enslaved; while a neighboring city, Myrleia, was destroyed. At the end of the campaign, Philip sailed south and treacherously seized the island of

17. The reliability of the Rhodian study, however, is not affected (see Boehringer, pp. 16–17); and Seyrig has provided further support for Kleiner's dates of ca. 202/1–190/89: 1) the down-dating of the Tartus 1940 hoard (*IGCH* 1530) to ca. 200 (*Trésors*, p. 22) and Latakia 1946 (*IGCH* 1536) to ca. 190 (*Trésors*, p. 31); and 2) the doubts raised about the date of the Diyarbekir 1955 hoard (*IGCH* 1735: dated ca. 205, but *Trésors*, p. 205, after 205). Furthermore, the presence of Pergamum but absence of Rhodes (as well as Chios, Period 3) from the large Asia Minor 1970 hoard (*Trésors*, pp. 13–20), dated ca. 200 (Seyrig and Boehringer, p. 8), reinforces the existing pattern found in NW Asia Minor 1929 (*IGCH* 1370), dated ca. 210 (see below, Appendix 3, n. 64), Gordion I 1951 (*IGCH* 1406), dated ca. 205–200, Pergamum 1960 (*IGCH* 1303), dated ca. 201, and Syria 1960 (*IGCH* 1533), dated ca. 200.

<sup>38</sup> See Kleiner (above, n. 37), pp. 113–14; Boehringer (above, n. 37), pp. 16–17. Kleiner's obverses V, FF, and HH are plated pieces with no connection to the official dies. Their omission leaves a total of 34 known obv. dies.

<sup>39</sup> See the discussions of F. W. Walbank, *Philip V of Macedon* (Cambridge, 1940), pp. 114–16; McShane, pp. 118–20; E. Hansen, *The Attalids of Pergamum*, 2nd ed. (Ithaca 1971), pp. 52–53.

Thasos. According to Polybius, once the Thasians had accepted Philip's terms and admitted him, the king immediately broke his word and sold the inhabitants into slavery.<sup>40</sup>

The operations of 202 were carried out against cities well known for their ties with the Aetolian League or Byzantium. By limiting his aggressions in this way, Philip hoped to forestall direct military confrontation with the major powers which had interests in the area: Pergamum and Rhodes.<sup>41</sup> But during the siege of Cius, international indignation at the unprovoked attack against a peaceful state spread throughout the Greek world and many city-states sent embassies to plead for the Cians. When the city was nevertheless destroyed, the Rhodians, as Polybius reports, considered themselves to be at war with Philip.<sup>42</sup>

Turning his attention to Ionia in 201, Philip first occupied Samos and then sailed north to attack Chios.<sup>43</sup> On this occasion, however, he was opposed by an allied fleet under the joint leadership of Rhodes and Pergamum. Setting aside their past hostilities, these two states had assembled a coalition of forces against Philip and now challenged his fleet in the strait between Chios and the promontory of Argenum.<sup>44</sup> The stubborn sea battle which ensued ended in victory for the allies. Philip was forced to abandon his operations against Chios; and the island was not subsequently threatened.

It has been proposed that the Alexanders of Pergamum and Rhodes were introduced when combined action had been decided and money was needed for outfitting and manning the allied fleet.<sup>45</sup> There are problems with the chronology of the Pergamene issues; but the case

<sup>40</sup> Polyb. 15.24.

<sup>41</sup> See above, n. 39.

<sup>42</sup> Polyb. 15.23.6; McShane (above, n. 39), p. 120, plausibly suggested that the unnamed embassies of 202 represented the same states active in the mediation attempts of 219–217 and 209–207. Since Chios was present on both of the earlier occasions, the island's concern over the fate of Cius may be assumed.

<sup>43</sup> On the chronology, obscured by the fragmentary condition of Polybius' account, see the summaries of previous viewpoints in *RRAM*, pp. 747–49.

<sup>44</sup> The history of Rhodian-Pergamene relations is reviewed by Kleiner (above, n. 37), pp. 119–20. On the battle of Chios, see Polyb. 3.3.2, 16.2–9. The report of App., *Mac.* 4.1, that Philip took Chios is wrong (Walbank [above, n. 39], p. 121, n. 2).

<sup>45</sup> Kleiner (above, n. 37), p. 121.

for Rhodes is very strong. Unlike the regnal coinage of Pergamum, the autonomous Rhodian issues were not struck on the internationally recognized Attic standard. Since the Rhodian contribution to the allied expenses had, in any case, to be coined specially, the use of the Alexander type was natural in order to insure not only the acceptability of the coinage but also its easy differentiation from the regular Rhodian issues.

Rhodes was clearly not the only state which found it necessary to strike Alexander types at this time.<sup>46</sup> Philip's attack on Chios leaves no doubt about the island's membership in the coalition; and the renewed production of Alexanders is perfectly understandable in this context. Furthermore, the shabby appearance of the coinage resulting from prolonged use of individual dies may well be directly related to the nearly continuous years of military conflict which plagued the region down to the final defeat of Antiochus III at Magnesia (190).<sup>47</sup>

#### PERIOD 4

ca. 190–160 B.C.

*Obv.* and *rev.* types as before; border of dots on obv. omitted from some late series; sphinx seated on amphora in l. field of rev. unless specified; names of magistrates written in exergue; secondary controls in l. field beginning with Series 64.

- |            |  |
|------------|--|
| Series 57: | OINΟΠΙΔΗΣ To l.: thunderbolt. M. 1113; Mav. 60 |
| 67–173     | *Hermitage                                     |
| Series 58: | HPΑΚΛΕΙΤΟΣ To l.: thunderbolt. Mav. 60         |
| 68–174     | *BM 818, 16.64 ↑                               |

<sup>46</sup> A suspiciously similar minting pattern can be seen, for example, in the specimens of Miletus and Magnesia in the Mektepini hoard. Until die studies of these and other regional mints have been completed, the present picture will not be clarified.

<sup>47</sup> On the alliance against Philip, see M. Holleaux, "Rome and Macedon: The Romans against Philip," *CAPP* 8, p. 152. On Antiochus III and his extended campaign to regain control of Western Asia Minor (198–190), see H. R. Rawlings, "Antiochus the Great and Rhodes," *American Journal of Ancient History* 1 (Cambridge, 1976), pp. 2–28. Chios sided with the allies against Antiochus and served as the headquarters for the Roman fleet; see Livy 37.27.1.

- Series 59:** ΑΡΙΣΤΟΤΕΙΧΗΣ To l.: (A) nothing (B) amphora  
 (A) 69–175 \*Beirut (S. Haddad coll.).  
 (B) 69–176 Berlin (Babylon 1900 Hd.; *ZfN* 1928, pl. 9, 38, rev. only) 14.56 ↑  
 Oxford (*SNG Ashmolean* 2812) 16.73 ↑

**Series 60:** ΤΙΜΩΝ M. 1114; Mav. 60  
 70–177 \*Paris 827 (Latakia 1759 Hd.; *Trésors*, pl. 21, 11.60)  
 16.24 ↑

**Series 61:** ΑΣΚΛΗΠΙΑΔΗΣ?  
 71–178 \*Beirut (American University)

**Series 62:** ΕΥΚΛΕΩΝ M. 1112; Mav. 60  
 72–179 \*BM 819, 16.84 ↑  
 72–180 Berlin (Loebbecke) 16.35 ↑

**Series 63:** ΧΑΡΗΣ M. 1115; Mav. 60  
 73–181 \*Paris 828, 16.07 ↑  
 73–182 Berlin (Prokesch-Osten) 16.40 ↑

**Series 64:** ΑΝΤΙΦΩΝ To l.: (A) no letters (B) Πο. M. 1116;  
 Mav. 60  
 (A) 73–183 \*ANS-ETN 16.75 ↑  
 73–184 Paris 829 (Latakia 1759 Hd.; *Trésors*, pl. 20, 11.53)  
 15.87 ↑; Gans Sale 1949.  
 (B) 74–185 \*BM 815 (*Nummi Veteres in Museo Richardi Payne Knight* [London, 1830; cited hereafter as *Knight Coll.*], p. 80, no. 91) 16.29 ↑

**Series 65:** ΑΛΚΙΜΑΧΟΣ To l.: Πο. Mav. 60  
 74–186 \*ANS-ETN 15.50 ↑  
 74–187 Berlin (Babylon 1900 Hd.; *ZfN* 1928, p. 109, no. 36)  
 14.38 ↑  
 75–188 \*ANS-Poladian, 1954, 16.78 ↑

**Series 66:** ΞΕΝΩΝ To l.: Πο. M. 1120; Mav. 60  
 75–189 Berlin (Prokesch-Osten) 15.81 ↑  
 75–190 Turin 16.09 ↑  
 75–191 (Southern Asia Minor 1964 Hd.; *Chronologie*, pl. 39, 18) 16.70

- 76–192 Hague 2885, 13.14
- 76–193 Copenhagen (*SNGCop Macedonia* 755) 16.55 ↑
- 76–194 \*Munich 22706, 16.90 ↑; Paris 824 (Latakia 1759 Hd.; *Trésors*, pl. 20, 11.58) 16.94 ↑
- Series 67:** ΔΙΟΓΝΗΤΟΣ To l.: (A) Πο (B) Α. M. 1117; Mav. 60
- (A) 77–195 \*ANS-Gautier 16.52 ↑
- 77–196 Paris 821 (Latakia 1759 Hd.; *Trésors*, pl. 20, 11.54) 16.31 ↑
- 77–197 BM 814 (*Knight Coll.* p. 80, no. 90) 16.54 ↑
- (B) 78–198 \*BM 813, 16.37 ↑
- Series 68:** ΕΥΚΛΗΣ To l.: Πο. M. 1118; Mav. 60
- 79–199 \*Berlin (Loebbecke) 16.85 ↑; ANS (Cahn 1957) 16.62 ↑
- 80–200 \*ANS-ETN 16.82 ↑
- 80–201 Paris 822 (Latakia 1759 Hd.; *Trésors*, pl. 20, 11.55) 16.67 ↑
- Series 69:** ΚΡΑΤΩΝ To l.: Πο. M. 1119; Mav. 60
- 79–202 Oxford (*SNGAshmolean* 2811) 16.25 ↑
- 80–202 ANS-ETN 16.60 ↑
- 80–203 Paris R3995, 16.35 ↑
- 80–204 Vienna 10301, 16.50 ↑; ANS cast 16.45 ↑
- 81–205 BM 816.2 (Allotte de la Fuye 1925, 228) 16.79 ↑
- 81–206 Copenhagen (*SNGCop Macedonia* 754) 16.00 ↑
- 81–207 BM 816.1, 16.25 ↑
- 82–208 \*Paris 823 (Latakia 1759 Hd.; *Trésors*, pl. 20, 11.56) 16.92 ↑
- 83–209 \*ANS-ETN (Ain-Tab 1921 Hd.) 15.78 ↑
- 83–210 Paris (Delepiere) 16.44 ↑
- 83–211 Berlin (Prokesch-Osten) 16.31 ↑
- xx Glasgow (*Hunter* 132) 16.74
- Series 70:** ΦΙΛΙΠΠΟΣ To l.: Πο. M. 1122; Mav. 60
- 81–212 ANS 16.07 ↑
- 84–213 \*Paris 826 (Latikia 1759 Hd.; *Trésors*, pl. 21, 11.61) 16.90 ↑
- 84–214 Berlin (Friedlaender) 16.63 ↑

- Series 71:           ΓΝΩΣΙΣ To l.: Πο. Mav. 60  
       84–215           \*Berlin (Prokesch-Osten; *ZfN* 1869, p. 49, no. 248;  
                         NC 1916, pl. 10, 14, rev. only) 15.80  
       xx               (Susiana 1965 Hd.; *RN* 1971, p. 120, no. 4)
- Series 72:           ΞΟΥΘΟΣ To l.: Πο. M. 1121; Mav. 60  
       84–216           \*Paris R3986, 16.65 ↑; Paris 825 (Latakia 1759 Hd.;  
                         *Trésors*, pl. 21, 11.59) 16.87 ↑  
       84–217           Hague 2886, 16.90  
       84–218           BM 817, 17.17 ↑  
       84–219           Berlin (Prokesch-Osten) 14.98 ↑
- Series 73:           ΜΕΝΕΚΡΑΤΗΣ To l.: no letters. Mav. 60  
       85–220           \*ANS-ETN 16.05 ↑  
       85–221           Glasgow (*Hunter* 133; NC 1916, pl. 10, 13) 17.05
- Series 74:           ΖΗΝΟΔΟΤΟΣ To l.: ΑΡ. M. 1123; Mav. 60  
       85–222           \*Paris 820 (Latakia 1759 Hd.; *Trésors*, pl. 20, 11.57;  
                         read *Μηνοδότης*, p. 52) 16.88 ↑  
       86–222           \*BM 809, 16.73 ↑  
       87–223           \*Cambridge (*SNGFitzwilliam* 4612) 16.58 ↑
- Series 75:           ΗΡΑΚΛΕΙΤΟΣ To l.: ΑΡ. Mav. 60  
       88–224           \*ANS-ETN 15.23 ↑
- Series 76:           ΕΥΣΕΒΗΣ To l.: ΑΡ  
       88–225           \*Paris 1968/221, 16.88 ↑  
       88–226           ANS-ETN 15.34 ↑
- Series 77:           ΑΡΓΕΙΟΣ To l.: ΑΡ Mav. 60  
       88–227           Berlin (Babylon 1900 Hd.; *ZfN* 1928, pl. 9, 37) 14.54  
       89–228           \*ANS-ETN 16.32 ↑  
       89–229           Berlin (*SNGAulock* 6642) 16.47
- Series 78:           ΘΕΟΠΟΜΠΟΣ To l.: ΑΡ  
       89–230           \*BM 810 (Urfa 1924 Hd.; NC 1969, p. 11, no. 6) 16.50 ↑  
       89–231           (Trabzon 1970 Hd.; *RSN* 1975, pl. 8, 100) 16.95
- Series 79:           ΤΙΜΟΔΑΜΑΣ To l.: ΑΡ Mav. 60  
       90–232           \*BM 812, 16.90 ↑
- Series 80:           ΑΡΙΣΤΟΔΗΜΟΣ To l.: ΑΡ  
       91–233           \*ANS-Storrs 16.47 ↑; ANS-ETN 16.18 ↑

Series 81:	ΛΑΣΩΝ To l.: AP M. 1125; Mav. 60
91–234	Paris R3992 (Tell Kotchek 1952 Hd.; <i>Trésors</i> , pl. 25, 15.216) 16.81 ↑
91–235	*BM 811, 16.65 ↑
91–236	Berlin (Babylon 1900 Hd.; <i>ZfN</i> 1928, p. 110, 39) 14.93 ↑
Series 82:	ΝΙΚΙΑΣ To l.: AP
91–237	*Paris 1968/220, 16.96 ↑
Series 83:	ΞΟΥΘΟΣ
92–238	*Uncertain provenance
Series 84:	ΕΥΚΛΕΩΝ To l.: Σ
93–239	*Paris R4003, 16.36 ↑
Series 85:	ΑΣΤΥΤΙΜΟΣ To l.: Σ
94–240	*Paris R3993 (Tell Kotchek 1952 Hd.; <i>Trésors</i> , pl. 25, 15.217) 16.62 ↑
Series 86:	ΜΑΝΟΙΤΙΜΟΣ
95–241	*Hermitage
Series 87:	ℳ M. 1109–11; Mav. 59B
96–242	*Boston 16.73 ↑
97–243	*Paris 830, 16.01 ↑
98–244	*Vienna 10300, 16.80 ↑
99–245	*Stockholm 16.93 ↑

*Numismatic Commentary.* Beginning with Series 57, the full name of the official responsible for the coinage is placed on the reverse of each issue. A total of 30 signatures is known; but the low survival rate (2.48) indicates that the record is incomplete; and, in fact, more than one-third of the known magistrates are identified from unique specimens.<sup>48</sup>

<sup>48</sup> Although the index figures are high enough to show that the main lines of the series are established, a substantial number of magistrates are undoubtedly missing at present. Since 10 of 15 obverses connect two or more known magistrates, there is some probability that magistrates served in annual boards of two or three which simultaneously used existing obverses with their own signed reverses. In any case, if the chronology proposed below (ca. 190–160) is correct, there are already too many known magistrates to maintain that one served per year.

Aside from the addition of a signature, the new issues are indistinguishable from the latest series of Period 3 (compare Plate 11, e.g. 66–171 and 67–172). Distinctive stylistic elements, including the dotted border, high-backed throne with sphinxes on the legs, low footstool and thunderbolt, continue without the slightest alteration.

The first change appears under Aristoteiches (Series 59), where the thunderbolt is initially omitted and then replaced by an amphora (see Plate 11, 69–175 [A]; and *SNG Ashmolean* 2812 [B]). Somewhat later, the need arose for a secondary control; and during the tenure of Antiphon (Series 64), a Πο was added (see Plate 12, 73–183, 74–185). After a few series, this system was briefly altered by Diognetos (Series 67), who divided the coinage into two groups controlled by Πο and Α (Plate 13, 77–195, 78–198).

At this point, the stylistic continuity from Period 3 ends. Issues of Diognetos contain all the elements characteristic of the earlier type; but the remaining Πο series (68–72) transform the portrait of Heracles and omit the throne back and low footstool (see Plates 13–14). A variant reverse type of Eukles (Series 67) seems to preserve the transition by having no throne back but a large footstool embellished with a thunderbolt (see Plate 13, 79–199).

After Eukles, the style moves steadily away from the earlier type. The dotted border is abandoned in Series 80 (Plate 15, 91–233); a bunch of grapes is added in front of the sphinx in Series 85 (Plate 15, 95–241); and ultimately the signature itself is replaced by a simple monogram in Series 87 (Plate 16, 96–242).

Analysis of the stylistic development during the period is supported by the contents of the Latakia 1759 hoard (*IGCH* 1544), buried ca. 170. Nine specimens from Period 3 are present (see Appendix 3); but only one (*Trésors*, 11.57 = 85–222) belongs to the AP group. The remainder are either from series with Period 3 style or from developed types with Πο. Since the AP example is stylistically related to the latest Πο issues (compare Plate 14, 84–216 and 85–222), its presence together with these issues suggests that the AP group had only just begun at the time of the hoard's burial.

On the basis of style, it is possible to differentiate magistrates of the same name who served at different times. The three names involved, Heracleitos, Eukleon, and Xouthos, are found on series which are easily

distinguished; but whether they represent different men or second terms held by the same individuals is uncertain.

The only doubtful signature occurs in Series 61 (Plate 12, 71–178). Since most of the name is either off flan or effaced from wear, there cannot be absolute certainty whether Asklepiades, or Asklepides, or even Asklepiadoros is intended.<sup>49</sup> The proposed Asklepiades (?) has in its favor that the spacing is a bit short for Asklepiadorus and Asklepides is rarely found. Asklepiades, on the other hand, is comfortable in the space available and occurs commonly in Chian inscriptions.<sup>50</sup>

*Hoards.* The end of Period 4 can be determined with certainty from the Tell Kotchek 1952 hoard (*IGCH* 1773), which contained an example of the next to last signature series (85 = 94–240). Since Seyrig dated the hoard to ca. 160 (see Appendix 3, n. 74), the fresh condition of the Astytimos piece means that the termination of the coinage must have also occurred at about that date.

Stylistic considerations suggest that the beginning should follow closely after the last series of Period 3; but the outset cannot be much earlier than ca. 190, since none of the seven hoards with Chian counters dated to that time contains an example of the signature series. By ca. 170, when the Latakia 1759 hoard (*IGCH* 1344) was buried, at least 18 magistrates had held office and at least 13 were yet to come. The length of an individual magistrate's term is unknown; but the distribution of names before and after ca. 170 suggests that the coinage was constant between ca. 190 and 160.

The proposed length of the period (ca. 190–160) is reflected in the specimens found in hoards buried ca. 150. The difference in wear between the earlier and later series is striking. An example of Theopompos (Series 78) in the Trabzon 1970 hoard is in excellent condition but one of Zenon (Series 66), buried in a contemporary hoard (Southern Asia Minor 1964 [*IGCH* 1432]), is so worn that the name can barely be

<sup>49</sup> All three of these names are attested on coinage of the region; see R. Muensterberg, *Die Beamtennamen auf den griechischen Münzen* (Vienna, 1911–27), p. 190.

<sup>50</sup> E.g. W. G. Forrest, "The Inscriptions of South-East Chios, I," *BSA* 58 (1963), p. 59, no. 9.

read.<sup>51</sup> In spite of the corroded state of the specimens in the Babylon 1900 hoard (*IGCH* 1774), they present the same picture. The issue of Aristoteiches (Series 59) is worn at all points of higher relief, while those of Argeios (Series 77) and Lason (Series 81) are not.<sup>52</sup>

*Historical Comments.* Chian loyalty to the allied cause against Antiochus III was generously rewarded in the peace settlement at Apameia (188).<sup>53</sup> Her territorial acquisitions, together with the renewed international stability resulting from the restoration of peace, must have given a considerable boost to the island's commercial interests; and when the Third Macedonian War (171–167) broke out, Chios once again wisely supported the winning side.<sup>54</sup> In the aftermath of the war, however, the existing economic situation was dramatically altered by the transfer of Delos to Athenian control and its establishment as a free port.<sup>55</sup> Rhodes suffered a substantial loss of revenue as a result;<sup>56</sup> and the impact of the new economic order must have been felt by smaller commercial states such as Chios.

The permanent discontinuation of the Alexander coinage may be indirectly related to the changing economic conditions after 167; but the specific reason for its abandonment can be seen in the widespread reintroduction of large denomination civic issues.<sup>57</sup> International preference for the standard Alexander or Lysimachus types was rapidly disappearing and with it any economic or political motivation for

<sup>51</sup> Compare *SNR* 1975, pl. 8, 100, with *Chronologie*, pl. 39, 18.

<sup>52</sup> I have personally studied this hoard in Berlin. The difference is dimly visible in *ZfN* 1928, pl. 9, 37 (Argeios) and 38 (Aristoteiches).

<sup>53</sup> Polyb. 21.45.6; Livy 38.39.11. Livy states that the commissioners "Chios quoque et Zmyrnaeos et Erythraeos, pro singulari fide quam eo bello praestiterunt, et agro donarunt et in omni praecipuo honore habuerunt."

<sup>54</sup> Livy 44.38.12–13.

<sup>55</sup> Polyb. 30.20.1–9; 31.9–12.

<sup>56</sup> Polyb. 30.31.12. See P. V. M. Benecke, "The Fall of the Macedonian Monarchy," *CAH* 8, pp. 289–91.

<sup>57</sup> See G. Le Rider, "Numismatique Grecque," *Annuaire, Ecole pratique des Hautes Etudes*, 1975–6 (Paris, 1976), pp. 345–57, who dates the introduction of civic tetradrachms at Syros, Mytilene, Cyzicus, Abydus, Tenedus, Aegae, Myrina, and Cyme to the years immediately after the Third Macedonian War.

continued production.<sup>58</sup> As the grotesque portraits of Series 87 (Plate 17) amply demonstrate, the Alexander type had outlived its original purpose.

## APPENDIX 1

## Period 1 : Sequence of Issues

	<i>Drachms</i>	<i>Tetradrachms</i>
1	1 ℳ	
2 (A)	ℳ	6 (Unc. monogram)
(B)	ℳ	7 Ⓛ
3 (A)	ℳℳ	8 ℳ ? Ξ
(B)	ℳℳ	9 Ⓛ Ξ
(C)	ℳℳ	
4	ℳℳ	
5 (A)	ℳℳ	
(B)	ℳℳ	

<sup>58</sup> No civic tetradrachms are known from Chios, however; and there is no evidence that the island's civic drachm coinage was ever intended for use in international commerce.

Period 2: Sequence of Issues

10 (A)		Δ	]	24		Λ
(B)		Δ		25	EY	Λ
11		A	]	26	Δ	Λ
12 (A)		A		27	Λ	Γ
(B)		A	]	28	ΞE	Γ
13		A		29 (A)	✗	
14		A	]	(B)	✗	Γ
15 (A)		A		30 (A)		Γ
(B)		A	]	(B)		Γ
16		A		31	‡	Γ
17 (A)			]	32	AN	
(B)				33	⊖	
(C)				34	Μ ?	
18		Σ	]	35	Μ	Μ
19		Σ		36	Μ	Μ
20		Σ	]	37	No control	
21		Σ		38	✗ ME	
22 (A)		Λ		39	Μ	ME
(B)		Λ	]	40	✗ A	(in exergue)
(C)		Λ				
23		Λ				

Period 3: Sequence of Issues

41 (A)		54		55	⌚	⌚
(B)	⌚		⌚			
42 (A)	Ⓜ	Σ	-	Ⓜ	Σ	-
(B)						
43 (A)	⌚	-		⌚		
(B)				⌚		
44	*	-	*			
		R110				
45				⌚	⌚	
46		Ⓜ				56
47		⌚				
48 (A)				⌚	⌚	
(B)				⌚	⌚	
(C)				⌚	⌚	
49 (A)		⌚				
(B)		⌚				
50 (A)				⌚	⌚	
(B)				⌚		
51 (A)				Ⓜ		
(B)				Ⓜ		

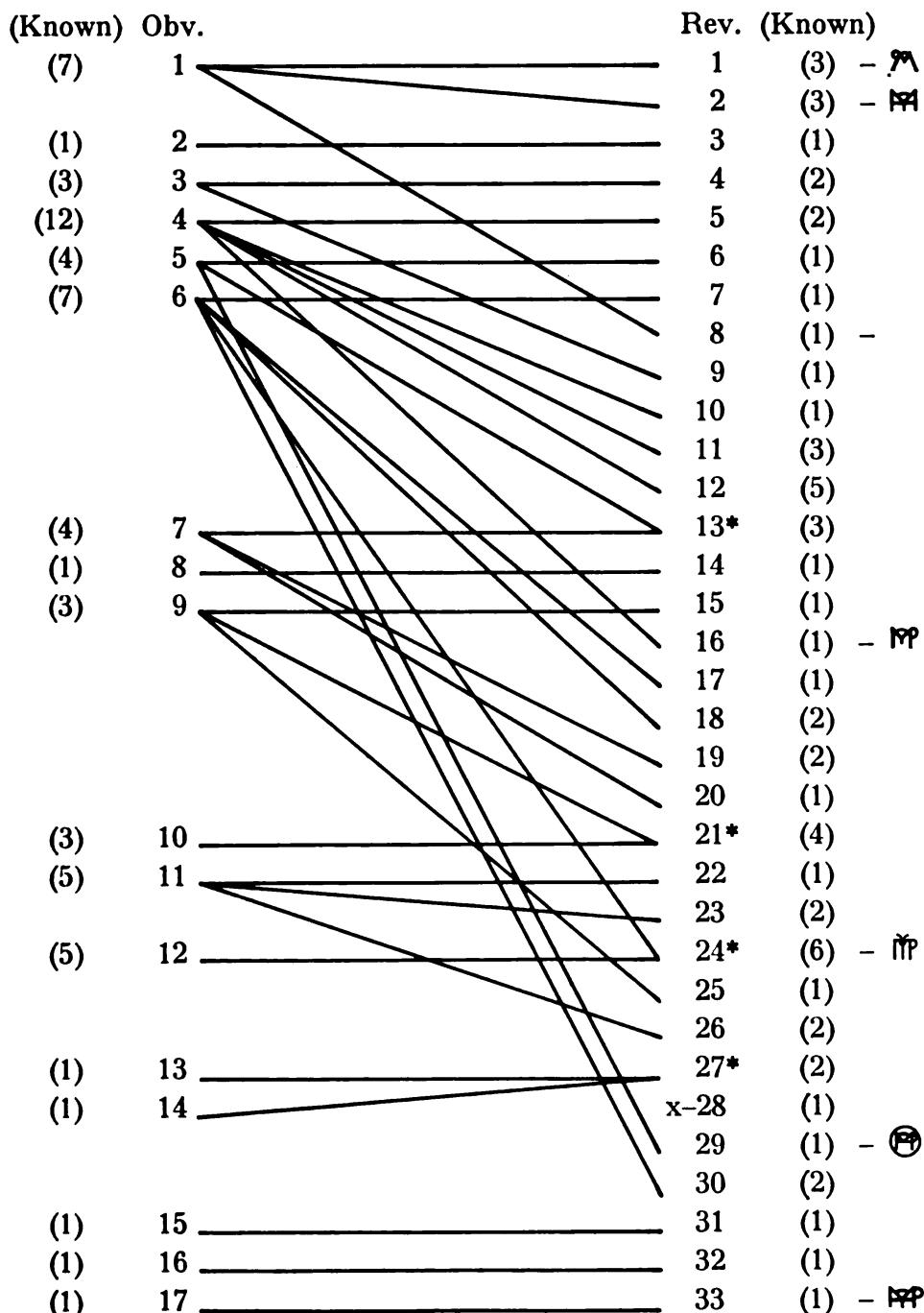
52 (A)	¶	A	]
(B)	✗	A	
53 (A)	✗	A	]
(B)	*	A	
54	¶		]
55	*		
56	¶		

## Period 4 : Sequence of Issues

57	ΟΙΝΟΠΙΔΗΣ	80	AP ΑΡΙΣΤΟΔΗΜΟΣ
58	ΗΡΑΚΛΕΙΤΟΣ	81	AP ΛΑΣΩΝ
59	ΑΡΙΣΤΟΤΕΙΧΗΣ	82	AP ΝΙΚΙΑΣ
60	ΤΙΜΩΝ	83	ΞΟΥΘΟΣ
61	ΑΣΚΛΗΠΙΑΔΗΣ?	84	Σ ΕΥΚΛΕΩΝ
62	ΕΥΚΛΕΩΝ	85	Σ ΑΣΤΥΤΙΜΟΣ
63	ΧΑΡΗΣ	86	ΜΑΝΟΙΤΙΜΟΣ
64 (A)	ANTIFΩΝ	87	¶
(B)	Πο " "		
65	Πο ΑΛΚΙΜΑΧΟΣ		
66	Πο ΞΕΝΩΝ		
67 (A)	Πο ΔΙΟΓΝΗΤΟΣ		
(B)	Πο " "		
68	Πο ΕΥΚΛΗΣ		
69	Πο ΚΡΑΤΩΝ		
70	Πο ΦΙΛΙΠΠΟΣ		
71	Πο ΓΝΩΣΙΣ		
72	Πο ΞΟΥΘΟΣ		
73	ΜΕΝΕΚΡΑΤΗΣ		
74	AP ΖΗΝΟΔΟΤΟΣ		
75	AP ΗΡΑΚΛΕΙΤΟΣ		
76	AP ΕΥΣΕΒΗΣ		
77	AP ΑΡΓΕΙΟΣ		
78	AP ΘΕΟΠΟΜΠΟΣ		
79	AP ΤΙΜΟΔΑΜΑΣ		

## APPENDIX 2

## Die Linkage of Period 1 Drachms



## APPENDIX 3

Posthumous Alexanders of Chios in Hoards<sup>60</sup>

<i>Hoard</i>	<i>IGCH</i>	<i>Identification</i>	<i>Dr.</i>	<i>4 dr.</i>	<i>Date</i>
Armenak 1927 <sup>61</sup>	1423	6–7	1		ca. 280–275
Jabukovac pre- 1920 <sup>62</sup>	447	18–34		1	ca. 275–260
Pergi 1955 <sup>63</sup>	455	1–2, 19–36	1	1	ca. 270–260
Bab 1944	1534	11–23, xx(Ser. 3)	15		ca. 250–200
Eretria 1937	175	xx(Ser. 5)	1		ca. 235
Tell Halaf 1913	1763	4–12, 7–20	2		ca. 235
Kizakli 1939	1369	23–40		1	ca. 235
Sophikon 1893 <sup>64</sup>	179	4–11, x–18, 12–24, x–28	4		ca. 230–220

<sup>60</sup> Unless noted, the place, year of discovery, and proposed date of burial in the following list are derived from the *IGCH*. Identification of the hoard material is given according to obv.–rev. die numbers in the above catalogue; x indicates the die could not be studied.

<sup>61</sup> On the date and question of whether or not the Chian drachm is intrusive, see above, p. 7. The *IGCH* report of two Chian tetradrachms is a mistake. In spite of the sphinx present on one of the two die-linked specimens, both the general style and controls are foreign (see above, n. 14, on other misattributions). The same situation exists for the tetradrachm attributed to Chios in the Pontoleibade-Kilkis 1961 hoard (*IGCH* 445). Neither the style nor monograms are Chian (see I. Varoucha, "Acquisitions du Musée Numismatique d'Athènes," *BCH* [1962], p. 419, no. 20, pl. 9, 7, who considered its mint uncertain).

<sup>62</sup> See Vucković-Todorović, *Starinar* 20 (1969), p. 395, no. 15 (Plate 3, 18–34). On the contents and date of the hoard, see above p. 10.

<sup>63</sup> On the date of this hoard, see above, p. 6, and the attribution of the tetradrachm (18–36), above p. 8–9 and pl. 3.

<sup>64</sup> Svoronos published three Alexander drachms which he connected with Mueller types now recognized as Chian (*JIA N* 1907, p. 41, no. 361 = 1531 [4–11], 362 = 1533 [x–18], 363 = 1534 [x–28 ?]). No. 361 was illustrated, pl. 1, 4. Today, the Sophikon coins at Athens are in a state of confusion. No. 361 is gone, but has been replaced by what appears (from the distinctive condition of the Sophikon coins) to be a hoard piece which is not no. 361 yet is from Chios (x–28). No. 363 is also gone; but its replacement is not from Chios. Since the coin (x–28) now in the place of no. 361 is a Mueller type 1534, it may be the original no. 363. However, no. 373 (con-

Sparta 1908	181	29–57	1	ca. 222
Corinth 1938	187	1–1, 12–24, 6–30, 4 17–33		ca. 215
N. W. Asia Minor 1929	1370	35–71, 39–78	2	ca. 210 <sup>64</sup>
Northern Syria 1960	1533	xx(Ser. 36)	1	ca. 210–200 <sup>65</sup>

nected by Svoronos to M. 1618) is actually a Chian drachm of M. 1534. This means that there are now two candidates for the original no. 363 and that, regardless of their identification, a minimum of 4 Chian drachms were originally in the hoard.

<sup>64</sup> *IGCH* puts the burial at ca. 225, based on the Seleucid material which ends with Antiochus Hierax and Seleucus II, i.e. ca. 226. If the hoard were a great deal later, the absence of Antiochus III types would be exceptional; but the Sardes 1911 hoard (*IGCH* 1300) ends with Hierax and Achaeus and is dated by Morkholm to ca. 215. As far as relative wear of the Alexanders can be judged, the five Pergamene issues are the best preserved (see F. S. Kleiner, "The Alexander Tetradrachms of Pergamum and Rhodes," *ANSMN* 17 [1971], pls. 21–22, A–1, D–6, H–19, who rejects altogether the chronological implications of the hoard on the assumption that it was a "collector's hoard" [p. 116]), while the Chian pieces are the most worn (see Plate 7, 39–78). One Hierax tetradrachm is also noticeably worn, but the rest are in quite good condition, as is the drachm of Seleucus II. Of the 12 Philetaerus types, illustrated in the Naville Cat., July 2, 1930, nos. 915–26 (identified by Newell on information from Jacob Hirsh), the 5 with ΣΥ and 2 with ΑΡ appear to be comparable to the Pergamene Alexanders. The first of these monogram types is found in the Syria 1962 (*IGCH* 1533): ca. 220, Sardes 1911 (1300): ca. 215, Syria 1959 (1535): ca. 210–200, Diyarbakir 1955 I (1735): ca. 205, Gordion I 1951 (1406): ca. 205–200, and Mektepini 1956 (1410): ca. 190; but the second does not appear until the Pergamum 1960 (1303): ca. 201, and is found with ΣΥ only in the Asia Minor 1970 (*Trésors*, no. 1, pp. 13–20): ca. 200, and Homs 1934 (1532): ca. 200–190 (*IGCH*: ca. 210, but see below, n. 67). This hoard record therefore suggests that the ΑΡ issues belong properly to the decade ca. 210–200, but that a much longer period of production was employed for the ΣΥ type, which is already circulating in ca. 220 yet is also found in nearly mint condition in the Mektepini hoard of ca. 190 (nos. 265–67). Boehringer, *Chronologie*, Beilage 2, suggests ca. 215–210 without discussion for the Asia Minor 1929 hoard; but when the lower date of the Homs hoard is recognized, the Asia Minor hoard should also be lowered to ca. 210 or even later.

<sup>65</sup> *Tresors*, p. 24, lowers Westermarck's date to the end of the third century, ca. 200 or a little before.

Syria 1959 <sup>66</sup>	1535	43–87	1	ca. 210–200
S. Asia Minor 1963	1426	25–47	1	ca. 210–200
Gordion V 1961	1405	33–67	1	ca. 205
Gordion I 1951	1406	43–85	1	ca. 205–200
Mosul 1917	1768	1–2, 5–13	2	ca. 200 <sup>67</sup>
Homs 1934	1532	58–142	1	ca. 200–190 <sup>68</sup>
Mektepini 1956	1410	35–69, 40–81, 41– 83 <sup>69</sup>	35	ca. 190
Cent. Asia Minor 1963	1411	56–122, 64–168	2	ca. 190
Asia Minor 1949	1450	xx (no details)	2	ca. 190
Latakia 1946	1536	55–129, xx (2:Ser. 51)	3	ca. 190 <sup>70</sup>
Kosseir 1949	1537	59–148	1	ca. 190

<sup>66</sup> Chios 43–87 = *Chronologie*, p. 159, no. 4; see above, n. 25, on the attribution to Chios.

<sup>67</sup> This hoard may be considerably earlier than ca. 200. Once the ca. 280–275 date of the Chian drachms is recognized, nothing remains (with the possible exception of the posthumous Lysimachus material) which necessitates a date after ca. 250. The hoard might well be as early as the Pergi 1955 (*IGCH* 455): ca. 270–260.

<sup>68</sup> *ESM*, p. 76, n. 109, "The hoard had been buried late in the reign of Antiochus III." Newell's estimate was no doubt based on the Seleucid material, which included three coins of Antiochus III (Antiocheia as *WSM* 1049, 1051, Seleucia-ad-Tigrim as *ESM* 220). Westermark, however, dated the hoard ca. 210 (*IGCH* 1532), based

on the presence of both Philetaerus type ΕΥ and ΑΡ, as in the Asia Minor 1929 (see above, n. 6, in which the Chian material is exclusively from Period 2). Boehringer, *Chronologie*, Beilage 2, proposed "gegen 200" without discussion. But the Chian Alexander in the hoard (58–142) belongs to the latter half of Period 3: ca. 202/1–190; and since this dating is supported both by the otherwise complete absence of Period 3 specimens from the 5 hoards in the above list dated ca. 210–200 and by the presence of examples from all series in the 7 hoards dated to ca. 190, even without Newell's explicit statement, it would be better to bring the Homs hoard into line with the evidence of these 12 hoards and lower the date to sometime in the first decade of the second century rather than to shift the date of the entire Chian Period 3.

<sup>69</sup> 53–96, –97, 54–105, –108, –110, 55–109, –110, –112(2), –113, –115, –116(3), –117(2), –126, 56–125, –131, –134, –140, –141, 58–135, –143(2), –144, 60–149, 61–158, 62–160, 63–161, –162, –163.

<sup>70</sup> *Tresors*, p. 31.

Syria 1971 <sup>71</sup>	—	56–132, 60–151, 60– 154	3	ca. 190
Ayaz-In 1953	1413	40–82, 55–126, 57– 139, 66–171		
Urfa (Edessa) 1924	1772	xx(Ser. 2), 89–230	1	ca. 185–160
Latakia 1759	1544	70–177, 73–181, – 184, 77–196, 80– 201, 82–208, 84– 213, –216, 85– 222	9	ca. 170 <sup>72</sup>
Ain-Tab 1920–21 <sup>73</sup>	1542	83–209	1	ca. 165–160
Tell Kotchek 1952 <sup>74</sup>	1773	35–70, 91–234, 94– 240	3	ca. 160
Babylon 1900	1774	58–145, 69–175, 74– 187, 88–227, 91– 236	5	ca. 155–150
S. Asia Minor 1964	1432	75–191	1	ca. 150
Trabzon 1970 <sup>75</sup>	—	89–231	1	ca. 150
Susiana 1965(?)	1806	xx(Ser. 71)	1	post 138
Media 1923	1813	58–136	1	ca. 90–85

<sup>71</sup> A photographic record of this hoard is on file at the ANS. Preliminary study of the contents indicates that it belongs to the large group of hoards buried ca. 190. See *Coin Hoards* 2 (London, 1976), p. 26, no. 81.

<sup>72</sup> *Trésors*, pp. 54–56.

<sup>73</sup> Newell rejected the Chian Alexander (84–209) on the basis of a difference in patina; and *Trésors*, pp. 58–60, also excluded it. Seyrig's date for the hoard is accepted here.

<sup>74</sup> Copenhagen acquired a Chian Alexander (Period 2, 35–70) reported to have been part of Tell Kotchek 1952 in the Baldwin 1972 Sale. The date is discussed and narrowed by Seyrig, *Trésors*, pp. 69–71.

<sup>75</sup> C. Boehringer, "Hellenistischer Munzschatz aus Trapezunt 1970," *NRS* 54 (1975), pp. 37–64.



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## SOME REFLECTIONS ON THE EARLY CISTOPHORIC COINAGE

(PLATES 18–19)

OTTO MØRKHOLM

The recent publication by Kleiner and Noe of a corpus of the early cistophori down to 128 B.C. has provided me with an opportunity for a reappraisal of this important coinage.<sup>1</sup> This paper concentrates on some points where I have arrived at different conclusions concerning chronology and attributions, but it must be understood that the research has only been made possible by the material collected and arranged by Kleiner-Noe; and on one major problem I am in complete agreement. Concerning the nature of the cistophoric coinage it has been demonstrated by Kleiner-Noe beyond any doubt that it is a royal coinage, imposed by the kings of Pergamum upon their possessions with the intention of creating a closed economic area under central control of the royal administration.<sup>2</sup>

### 1. THE BEGINNING OF THE CISTOPHORIC COINAGE

Admittedly the initial date for this coinage is very difficult to establish, and when Kleiner-Noe place the beginning of the cistophoric coinage in 166 B.C. they argue from general historical considerations which are open to doubt.<sup>3</sup> The production of Attic weight tetradrachms in the name of Athena Nicephorus at Pergamum (Plate 19, 12) can be

<sup>1</sup> F. S. Kleiner and S. P. Noe, *The Early Cistophoric Coinage*, ANSNS 14 (New York, 1977), hereafter cited as Kleiner-Noe. For earlier literature see D. Kienast, "Literaturüberblicke der griechischen Numismatik. Cistophoren," *JNG* 11 (1961), pp. 159–88.

<sup>2</sup> Kleiner-Noe, p. 125. See C. M. Kraay, *Greek Coins and History* (London, 1969), p. 8; C. Boehringer, *Zur Chronologie mittelhellenistischer Münzserien 220–160 v. Chr.*, AMUGS 5 (Berlin, 1972), p. 44 ('Reichsprägung').

<sup>3</sup> Kleiner-Noe, pp. 16–17.

dated with great probability to 181 B.C. and shows that, at that date, the Attic weight was still used.<sup>4</sup> The oldest dated cistophorus issue derives from year 20 of Attalus II or 140/39 B.C.<sup>5</sup> The earliest hoard containing cistophori was only buried ca. 150–145 B.C., where we must place the terminus ante quem for their introduction.<sup>6</sup> To find the exact date between 181 and ca. 150 B.C. is impossible, but the brackets can be narrowed somewhat. Concentrating on the mint of Pergamum, which was one of the most important cistophoric mints from the very beginning, it appears that Attic weight coins were struck here for a considerable time after 188 B.C. In addition to the Athena Nicephorus tetradrachms already mentioned we have to take into account group 7 of the Philetaerus tetradrachms (Plate 19, 11), a considerable issue struck from at least 33 obverse dies.<sup>7</sup> Looking at the number of obverse

<sup>4</sup> G. Le Rider, "Un tétradrachme d'Athéna Niképhoros," *RN* 1973, pp. 66–79. The issue must be connected with the celebration of the *Nicephoria*, reorganized by Eumenes II as a penteteric festival in 181 B.C. See C. P. Jones, "Diodoros Pasparos and the Nikephoria of Pergamon," *Chiron* 4 (1974), pp. 183–205. As the issue appeared in the Sitichoro hoard (*IGCH* 237), buried in 168/7 B.C., it may theoretically belong to the celebrations of 177 and 173 B.C., but the first celebration of the reorganized festival in 181 B.C. seems more likely. The second known coin of this type (Bank Leu 7, May 1973, no. 207) is now in The British Museum.

<sup>5</sup> Kleiner-Noe, p. 50, Ephesus Series 33. See F. S. Kleiner, "The Dated Cistophori of Ephesus," *ANSMN* 18 (1972), pp. 18–23.

<sup>6</sup> Kleiner-Noe, pp. 107–8 (*IGCH* 1452). Also p. 124, n. 16, states that the earliest mention of cistophori in the Delian inventories dates from 156 B.C., but this terminus ante quem is not correct. The inscription in question, *Inscriptions de Délos* 2 (Paris, 1937), no. 1422, is only dated as closely related to the preceding inscription no. 1421, where the name of the Athenian archon Andreas occurs (*Ab v. 10*). In the text, p. 82, the date of his archonship is given as 154/3 or 152/1 B.C. This is the basis for the dating of no. 1422 by L. Robert, *Études de numismatique grecque* (Paris, 1951), pp. 167f., "peu après 156." However, the archonship of Andreas is floating around. E. Manni, *Fasti ellenistici e romani* (Palermo, 1960), p. 84, places it in 150/49 B.C. with a question mark, and A. E. Samuel, *Greek and Roman Chronology* (Munich, 1972), p. 219, puts it in 144/3 B.C.; similarly B. D. Meritt in his latest survey, "Athenian Archons 347/6–48/7 B.C.," *Historia* 26 (1977), p. 184.

<sup>7</sup> See U. Westermark, *Das Bildnis des Philetairos von Pergamon* (Stockholm, 1960), pp. 71–74, who lists 24 obverse dies; to these should be added her two last obverse dies of group 6 (V. 129 and 130), which actually belong to group 7, and seven new obverses published by C. Boehringer, "Hellenistischer Münzschatz aus Trapezunt," *SNR* 54 (1975), pp. 57–59, pl. 7. For the dating of the Philetaerus-tetra-

dies of the various issues at Pergamum we get the following distribution:

	<i>Number of obv. dies</i>	<i>Dates B.C.</i>	
		<i>Kleiner-Noe</i>	<i>Mørkholm</i>
<b>ATTIC WEIGHT</b>			
Philetaerus group 7	33 {	ca. 188–166	ca. 188–175
Athena Nicephorus	2 }		
<b>CISTOPHORI</b>			
Kleiner-Noe Series 1–8	20	ca. 166–160	ca. 175–168
Kleiner-Noe Series 9–19	18	ca. 160–150	ca. 168–157
Kleiner-Noe Series 20–24	40	ca. 150–140	ca. 157–140

Bearing in mind that the cistophor is only three-fourths of an Attic weight tetradrachm, it will be admitted that my suggested dates allow a more even distribution of the coinage over the period 188–140 B.C. Of course, ancient coinages need not be evenly distributed in time, and perhaps seldom were. On the other hand, Kleiner-Noe have not explained their uneven distribution by reference to the historical events or in any other way.

Turning to the historical circumstances of relevance for the introduction of the cistophori it will be necessary to recall briefly the main events between 188 B.C. and the death of Eumenes II in 159 B.C.<sup>8</sup> Soon after the peace of Apameia, Eumenes became involved in a series of struggles with his neighbors: first the war with Prusias I of Bithynia and the Galatians which lasted until 183 B.C., then a war with Pharnaces of Pontus from 183 to 179 B.C. After a peaceful interval of about seven or eight years the diplomatic activity leading to the third Macedonian war started in 172 B.C. The war itself ended in 168 B.C., but for Eumenes it was succeeded by severe fighting with the Galatians to 166 B.C.

After 166 B.C. Eumenes enjoyed peace until his death in 159 B.C., but during the last years of his reign he was regarded with extreme suspicion by the Romans who closely watched his movements. As we

drachms group 7 to after 188 B.C., see N. Olçay and H. Seyrig, *Le trésor de Mektepini en Phrygie* (Paris, 1965), pp. 30–31. The portrait coin of Eumenes II in The British Museum is not included because its dating is uncertain.

<sup>8</sup> For the latest survey of this period see J. Hopp, *Untersuchungen zur Geschichte der letzten Attaliden*, *Vestigia* 25 (Heidelberg, 1977), pp. 34–58, where references to ancient sources and modern discussions can be found.

have seen, his reign after 188 B.C. falls in alternate periods of war and peace: 188–179 B.C. war; 179–172 B.C. peace; 172–166 B.C. war; 166–159 B.C. peace. It is to the last peaceful period that Kleiner-Noe would date the introduction of the cistophoric coinage. My dating rests on the assumption that it belongs to the first period of peace, ca. 179–172 B.C. This was the first opportunity for Eumenes to devote himself to a major reorganisation of his enlarged kingdom, and I find it more likely that he would introduce a far-reaching financial reform of decidedly “separatist” nature at a time when he was still the trusted friend of the Romans, rather than in a period when the Romans were actually hunting all over his kingdom for evidence of disloyalty and might be suspicious of any initiative or sign of independent action.<sup>9</sup>

Within the years from 179 to 172 B.C. I have simply chosen 175 B.C. as a convenient date near the middle of the period. I will not claim, at this stage, that I have *proved* my chronology, only that it is perhaps a little more likely than the one adopted by Kleiner-Noe. An examination of other problems connected with the early cistophori may shed some light on the dating problems and allow us to make a choice between the two chronological systems.

## 2. THE CISTOPHORI OF SYNNADA

At Synnada in Phrygia we find some rare issues of cistophori. The most remarkable thing about them is that the three obverse dies used for their production are also found with reverses from other mints, one with a Pergamum reverse and two with reverses from Sardes.<sup>10</sup> To Kleiner-Noe the explanation of this strange phenomenon is that all the coins in question were produced at one and the same place: the mint at Pergamum.<sup>11</sup> Their theory that all the coins marked Pergamum, Sardes, Synnada and “Apameia” “were produced from a common pool

<sup>9</sup> See especially Polyb. 31.1.6–8 and 31.6.1–6 on the mission of C. Sulpicius Gallus in 164 B.C. who actually encouraged the king's own subjects to present their accusations against him at Sardes. On the Greek reaction see M. Holleaux, *REG* 1924, pp. 305–30 (= *Études d'épigraphie et d'histoire grecques* 2 [Paris, 1938], pp. 153–78), but I fail to see why the Greek support for Eumenes II should in any way influence the coinage of his kingdom in an “isolationist” direction.

<sup>10</sup> Kleiner-Noe, pp. 79–82.

<sup>11</sup> Kleiner-Noe, pp. 80 and 120–21.

of anvil and punch dies" at Pergamum will be discussed in section 3 of this paper. Here it will suffice to say that, for the Pergamum-Sardes-Synnada complex, we have only one obverse die linking Pergamum and Synnada and two obverses linking Sardes and Synnada, while we have no direct links between Pergamum and Sardes. In addition we have an issue of cistophori at Pergamum marked with the city monograms of Pergamum and Synnada at the same time.<sup>12</sup> Finally it must be stressed that Synnada cannot be regarded as a regular cistophoric mint during the period in question. The small scale of the production and the fact that all the obverse dies were used with other city designations make it a very special case, presumably an emergency issue related to a specific historical event. Before we try to find that, a more thorough examination of the coinage must be undertaken. From the wear of the common obverse dies it seems that the Pergamene one (P24) was used first with Pergamum reverse and later (as S10) with Synnada reverse (Plate 18, 1-2). Of the two Sardes dies the one (S9) was used first with Sardes reverse, but the other (S8) was definitely put to use first with Synnada reverse (Plates 18, 3-6; 19, 8-10). We get the following distribution of the coin issues involved:

*Pergamum, Series 11b      Synnada, Series 5-8      Sardes, Series 5-8*

P27	¶	X	race torch				
P26	"	"	"	"			
P25	"	"	"	"			
P24	"	"	"	"	→ S10	X	palm branch <sup>13</sup>
					S9	" M	star ← S9 X M sword <sup>14</sup>
					S9	A	sword
					S9	BA AP ΣY	sword
					S8	A	amphora → S8 " M sword
							S8 " amphora
							S11-13 X or ΣAP star

<sup>12</sup> Kleiner-Noe, p. 26, Series 11b, and p. 80 with n. 2 (pl. 19, 1).

<sup>13</sup> Kleiner-Noe, p. 79, describes the symbol as *sword in sheath*, but it is a *palm branch* placed horizontally. See *SNGvAulock* 8443. The coin is now in Copenhagen (pl. 18, 2).

<sup>14</sup> Kleiner-Noe, pl. 30, 1, illustrates a wrong obverse die. The coin in Vienna is struck from S9, as indicated in the catalogue (pl. 18, 3).

From the coin material, as here arranged, I would conclude that during a critical situation the town of Synnada became the focus of affairs. Money was needed there. At first the coins were struck at Pergamum, but the Synnada monogram was added to that of the mint of Pergamum (Series 11b). I explain the two monograms of this issue as meaning "coins struck at Pergamum for use at Synnada." Later, it was decided to establish a temporary mint in the Phrygian city. One obverse die was sent from Pergamum (P24 = S10) but, as this did not suffice, another obverse die and some personnel from the mint of Sardes were moved temporarily to Synnada and functioned there for a short while before returning. Here it is not only the question of transference of dies: the occurrence of the monogram **M** or **Μ** and of the symbols *sword*, *star*, and *amphora* at both places indicates that the staff of officials was also moved back and forth.

It remains to be seen if the historical events which caused this extraordinary activity can be identified. The only time within our period when Synnada is mentioned is in the spring of 167 B.C., when the Galatians advanced upon the Attalid kingdom, arriving at Synnada, where they were met by Roman legates who were supposed to act as mediators.<sup>15</sup> It is not clear from our text whether the Galatians actually captured Synnada itself or camped within the territory of the city, but the latter seems most likely. The lukewarm Roman intervention was of no assistance to Eumenes who had concentrated his forces in Sardes. He had to continue the war and brought it to an end in 166 B.C. by a resounding victory somewhere in Phrygia. It is within this framework that the cistophoric coinage of Synnada finds its natural place. Undoubtedly the staff from the mint of Sardes was moved to Synnada with the advance of the Attalid army. The combination of these two localities in our literary sources cannot be a coincidence. The coins will then belong to the years 168 to 166 B.C., a dating compatible with the chronology put forward in the first section.

Among the Synnada coins is the interesting issue signed **BA AP**, which can now be given a proper explanation. The issue was first

<sup>15</sup> Livy 45.34.10–14. See F. Stähelin, *Geschichte der kleinasiatischen Galaten* (Leipzig, 1907; repro. Osnabrück, 1973), pp. 66–77; Hopp (above, n. 8), pp. 51–53.

connected with Aristonicus,<sup>16</sup> but recently it has been pointed out by Kienast that the pretender must have taken the royal title and the dynastic name of Eumenes at the same time. Name and title go together, and Aristonicus could hardly use his name as a commoner after the assumption of the royal title. Kienast's solution was to identify BA AP with Ariarathes V of Cappadocia who assisted the Romans in the war against Aristonicus, when he was killed, and who might have struck these coins during his expedition to western Asia Minor.<sup>17</sup> The die study of Kleiner and Noe has now shown that the issue is much earlier and cannot have any connection with the Aristonicus war.<sup>18</sup> Combining the arguments of Kienast with the new chronology here proposed, it becomes evident that the coins were struck by Ariarathes IV of Cappadocia, who must have assisted Eumenes in 166 B.C. in his final battle against the Galatians. This is not mentioned in any of the ancient sources, but the thought is only natural in view of the very intimate political connections between Pergamum and Cappadocia during this period and the common interests of both kingdoms to contain the Galatians within their own territory. Cappadocian assistance has actually been assumed by some scholars, and the existence of the BA AP coins seems to strengthen their case.<sup>19</sup>

### 3. APAMEIA, PARIUM OR APOLLONIA?

Following the common opinion, the series of early cistophori with the monogram  is attributed by Kleiner-Noe to Apameia in Phrygia. It is argued, however, that the coins were actually struck at Pergamum (together with the coins of Sardes and Synnada) "from a common pool of anvil and punch dies." There are three main arguments for this assertion: stylistic and technical similarities; the occurrence of identical symbols as control marks in different series; obverse die links.<sup>20</sup>

<sup>16</sup> SNG Aulock 8444; Kraay (above, n. 2), p. 7.

<sup>17</sup> D. Kienast, "Eine Silbermünze aus der Zeit des Aristonikoskrieges," *Historia* 26 (1977), pp. 250–52.

<sup>18</sup> Kleiner-Noe, p. 81, Series 7.

<sup>19</sup> B. Niese, *Geschichte der griechischen und makedonischen Staaten seit der Schlacht bei Chaeronea* 3 (Gotha, 1903), pp. 201–2.

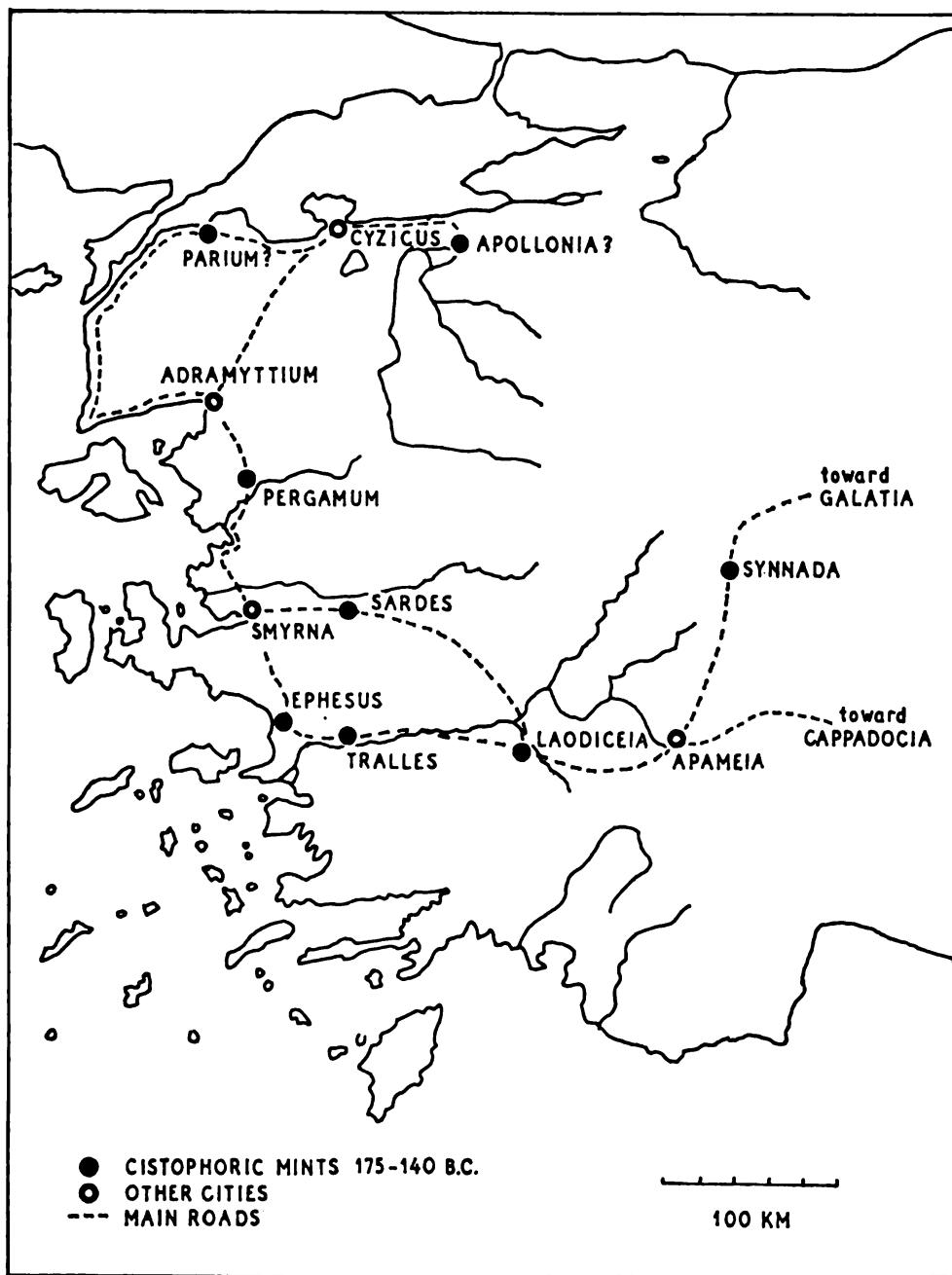
<sup>20</sup> Kleiner-Noe, pp. 120–21.

The first two arguments are rather dubious in my opinion. The cistophoric coinage is very uniform in style and technique, and the types do not lend themselves easily to stylistic analysis. As far as I can see, similarities exist between the issues of all the cities involved in the production, and they are more appropriately used for chronological rather than for geographical differentiation. Concerning the symbols, there is certainly a difference between, on one hand, Ephesus, Tralles, and Laodicea, which used symbols with strong local and civic flavor, and the other cistophoric mints, where symbols of extremely general and common nature are found. But it is precisely the banality of the latter group of symbols that makes it difficult to use them as evidence for any specific connections. Moreover, Kleiner's theory is rather odd because when an obverse die is used both with Pergamum and ☐ -reverse, the symbols are always different!

The third argument, from the obverse die links, remains to be dealt with and is undoubtedly the most important. Here it should be noted that the six common obverse dies of Pergamum and "Apameia" all belong to a restricted period, 150–140 B.C. according to Kleiner-Noe, ca. 157–140 B.C. on my reckoning.<sup>21</sup> They may even derive from a couple of years within the period, as they are known from relatively few issues. It is worthy of notice that their appearance coincides with a period of strongly increased production at both mints. Under such circumstances I find it difficult to accept Kleiner-Noe's theory of the production at a central mint (Pergamum) from a common pool of dies. This system should, in my opinion, have produced far more examples of shared obverse dies, and one would assume them to be much more evenly distributed over the series as a whole. Their concentration points again toward one or more specific historical events as the reason behind the distinctive pattern.

Before we enter a discussion of their place in the historical framework it will be expedient to deal with the problem of their attribution. As already stated, modern scholars have been unanimous in ascribing the coins to Apameia in Phrygia, and before the publication of Kleiner-

<sup>21</sup> P38 = A17; P46 = A24; P54 = A28; P69 = A37; P75 = A38; P79 = A40. Of these six obverse dies P38, P54 and P75 were used first at Pergamum. For the remaining three one cannot decide, from the illustrations, the question of priority.



Noe it was undoubtedly the most sensible and economic point of view to regard these coins as the forerunners of the well known post-133 B.C. cistophori with ΑΠΑ, which are definitely from Apameia.<sup>22</sup> Here, however, the die study of Kleiner and Noe has changed the situation. The obvious connections between the **¶** coins and the ones from Pergamum, though not strong enough to prove the origin of both series at the same mint, make the attribution to Apameia very awkward. A glance at the map will show that Apameia is further removed from Pergamum than any other cistophoric mint with no direct main road connection. The traffic between Pergamum and Apameia will have passed either by Sardes or by Ephesus and Tralles.<sup>23</sup> These simple geographic considerations make the direct connection Pergamum-Apameia extremely unlikely, whatever form it is supposed to have taken.

Under these circumstances the old suggestion of du Mersan, that the cistophori with **¶** were issued at Parium deserves renewed attention, although his arguments are far from impressive.<sup>24</sup> We know that the Attalid kingdom after 188 B.C. comprised a district at the Hellespont placed under a *strategos*.<sup>25</sup> Its strategic importance derived from the fact that it was essential for the easy communication with the Attalid possessions in Europe, the Thracian Chersonesus just across the strait. Most of the ancient Greek cities in this area, as Cyzicus and Lampsacus, were independent after 188 B.C. The position of Parium is unknown.<sup>26</sup> It did strike autonomous coins during the second century B.C.,<sup>27</sup> and a

<sup>22</sup> Kleiner-Noe, p. 86 with n. 1, gives a brief summary of the arguments for ascribing the coins to Apameia.

<sup>23</sup> The course of the main roads on the map is taken from W. M. Calder and G. E. Bean, *A Classical Map of Asia Minor* (London, 1958). On the road system in western Asia Minor, see *RRAM*, pp. 39–42.

<sup>24</sup> M. du Mersan, "On the Coins called Cistophori," *NC* 1846, pp. 7–9.

<sup>25</sup> H. Bengtson, *Die Strategie in der hellenistischen Zeit* 2 (Munich, 1944; repr. 1964), pp. 211–16.

<sup>26</sup> On the position of Greek cities after Apameia, see E. Bikerman, "Notes sur Polybe," *REG* 50 (1937), pp. 217–39; H. Seyrig, "Monnaies Hellénistiques," *RN* 1963, pp. 19–22.

<sup>27</sup> *SNGLewis* pt. 1, no. 829 (pl. 19, 13; photograph courtesy of the Master and Fellows of Corpus Christi College, Cambridge); Paris ex *Coll. de Hauteroche* (1829), pl. 12, 13 (Attic tetradrachms). *Hunter* 2, p. 274, no. 6, pl. 48, 10 (Rhodian tetradrachm).

passage in Strabo implies its independence in contrast to the neighbouring city of Priapus.<sup>28</sup> However, these isolated pieces of information are hardly sufficient to demonstrate that Parium was autonomous throughout the years from 188 to 133 B.C. It may well have changed status during this period, and the autonomous issues are so rare that a very short time will have sufficed for their production.

In the same district of the Hellespontus there is another place which might have been the mint of our coins, Apollonia on the Rhyndacus, close to the Bithynian frontier. It is, of course, quite impossible to tell whether the monogram stands for ΠΑ or for ΑΠ, and the direct submission of Apollonia to the rule of Pergamum can hardly be questioned.<sup>29</sup> The choice between Parium and Apollonia is not an easy one, and I prefer to leave the matter open. But it seems most likely that the coins in question should be ascribed to a mint in this general area rather than to Apameia in Phrygia.

We may now turn our attention to the historical events of the period. It must be noted that the years 157–140 B.C. (150–140 B.C. according to Kleiner-Noe) saw a considerable increase in the production of the ΠΑ mint; the number of obverse dies used rose to 27 against 6 and 8 respectively during the two preceding periods (see the table, below p. 59). In this period we have no knowledge of military operations or any other expensive activities in Phrygia or toward the eastern frontier of the Attalid kingdom. On the other hand, the northwestern province were affected by the wars with Bithynia, first the one of 156 to 154 B.C. which saw Attalid naval action in the Hellespontus and the Propontis, later the assistance to Nicomedes I in 150–149 B.C., when he deposed his father Prusias II.<sup>30</sup> A war in Europe with the Thracian king Diegylis about 145 B.C. may also have meant military preparations in the Hellespontine district.<sup>31</sup> If the attribution of the ΠΑ coins to Parium or Apollonia is accepted, the increase in the coin production at

<sup>28</sup> Strab. 13.1.14.

<sup>29</sup> See M. Holleaux (above, n. 9), p. 115; E. Meyer, *Die Grenzen der hellenistischen Staaten in Kleinasiien* (Zurich/Leipzig, 1925), p. 148.

<sup>30</sup> See Habicht, "Ueber die Kriege zwischen Pergamon und Bithynien," *Hermes* 84 (1956), pp. 101–10; Hopp (above, n. 8), pp. 74–79 and 86–92. On the naval activity in 154 B.C. see Polyb. 33.13.1–3.

<sup>31</sup> See Hopp (above, n. 8), pp. 96–98.

this juncture becomes understandable as the numismatic reflection of one or more of the campaigns just mentioned. At the same time and for the same reasons Pergamum increased its production. It also becomes feasible that during a restricted period of intense activity the great central mint of Pergamum may have provided some obverse dies for the smaller establishment at Parium or Apollonia. This seems far more probable than that reverses with **A** should have been used at Pergamum, especially because the control marks of the two emissions are always different.

#### 4. LAODICEIA

The emissions of Laodiceia on the Lycus must also be regarded as a special issue because of the restricted number of obverse dies used for its production. Only four obverse dies for cistophori and two for didrachms are known at present, placing the issue in nearly the same category as the one of Synnada, as far as size is concerned.<sup>32</sup> It is possible to make a suggestion regarding its historical context. Kleiner-Noe notes a similarity with the issues from Tralles and suggests that the Laodiceia coins were actually minted there. The similarity is not to be denied, but in my opinion it is better explained by the assumption that Tralles provided the die cutters for a new subsidiary mint functioning only for a limited period. Two occasions come to mind when a small mint at Laodiceia might be useful for a specific purpose. In or about 158 B.C., Attalus II led an army against the city of Selge in Pisidia, and in 157 he helped his brother-in-law, Ariarathes V of Cappadocia, to regain his ancestral throne from the usurper Orophernes.<sup>33</sup> On both occasions Pergamene armed forces, concentrating in this area and moving eastward along the southern highway, may well have found it convenient to have a mint at Laodiceia. This explanation is, of course, only arguable if the removal of the early **A** coins from Apameia to the Hellespontine district is accepted (above section 3). If Apameia is retained as an early cistophoric mint this place would offer more ad-

<sup>32</sup> Kleiner-Noe, pp. 97–99.

<sup>33</sup> Hopp (above, n. 8), pp. 59–68 and 74.

vantages than Laodiceia for the provision of coins to a Pergamene army marching east towards Selge or Cappadocia (see map).

### 5. CONCLUSION

For the period from ca. 175 to 134 B.C. we should reckon with five cistophoric mints: Pergamum, Parium or Apollonia, Sardes, Ephesus and Tralles. Their production was supplemented on two specific occasions by issues from subsidiary mints placed at Synnada (167–166 B.C.) and at Laodiceia on the Lycus (158 or 157 B.C.), in both cases in connection with extraordinary military activities. The development of the coinage is best illustrated by a table of the obverse dies for cistophoric tetradrachms registered by Kleiner-Noe. Their material hardly offers a complete listing of the dies once used, but there is no particular reason to assume that the proportions between the mints will change significantly by the appearance of new obverse dies. The chronology is the one suggested in the first section of this paper for Pergamum:

	<i>Pergamum</i>	<i>Parium / Apollonia</i>	<i>Sardes</i>	<i>Ephesus</i>	<i>Tralles</i>
1.	ca. 175–168 B.C.	20	6	8	9
2.	ca. 168–157 B.C.	18	8	7	15
3.	ca. 157–140 B.C.	40	27	3	20
4.	ca. 140–134 B.C.	11	4	—	13
5.	ca. 134–128 B.C.	19	3	5	45
	<hr/> 108	<hr/> 48	<hr/> 23	<hr/> 102	<hr/> 101

The table informs us that at the beginning the two important cistophoric mints were Pergamum and Tralles,<sup>34</sup> while the three other mints were considerably smaller. In the following periods Ephesus increased its production somewhat. Pergamum and Parium/Apollonia produced a substantial coinage within the years 157–140 B.C., while Sardes apparently declined. The merely three obverse dies of period 3 can hardly cover ca. 16 years, and it seems likely that the coin production at

<sup>34</sup> It should be kept in mind that Tralles was the most prolific mint for cistophoric fractions. For the years from ca. 175 to 140 B.C. this mint used 18 obverse dies for didrachms and 9 for drachms as against 4 and 0 at Pergamum.

Sardes came to an end well before 150 B.C., to be resumed after 135 B.C. with the small emissions Kleiner-Noe Series 15-22, using a total of only five obverse dies. After the productive period ca. 157-140 B.C. Parium/Apollonia again declined to relative insignificance. The old notion that Ephesus was the most important cistophoric mint and that the coinage originated there are shown to be wrong. It was only after 134/3 B.C. that Ephesus became the most prolific cistophoric mint. The huge production of the years 134/3 to 129/8 B.C., demanding 45 obverse dies in six years,<sup>35</sup> was undoubtedly a result of Ephesus' position as a military headquarters in the fighting against Aristonicus.

#### ADDENDUM

One of the reasons often adduced for the attribution of the η cistophori to Apameia is the supposed continuity of a flute symbol. Actually a single flute appears as a symbol on four of the latest η issues (Kleiner-Noe Apameia Series 26-29), while a double flute is the permanent symbol on all the later cistophori with ΑΠΑ.

In the first place a single flute and a double flute are not identical. Secondly, Kleiner has quite recently argued, convincingly in my opinion, that the ΑΠΑ coins were first produced from about 88 B.C., creating a gap of about 45 years between the two series.<sup>36</sup> Under these circumstances I find it even more difficult to consider the symbol as providing important evidence for continuity.

#### KEY TO PLATES

(References for the cistophori are to Kleiner-Noe.)

- 18    1. Pergamum Series 11b, 24-a. ANS
- 2. Sardes-Synnada Series 6, 10-e. Copenhagen ex *SNGvAulock 8443*

<sup>35</sup> See Kleiner-Noe, pp. 53-57.

<sup>36</sup> F. S. Kleiner, "The Late Cistophori of Apameia," *Essays Thompson*, pp. 119-30, esp. pp. 121-22.

3. Sardes-Synnada Series 6, 9-c. Vienna
  4. Sardes-Synnada Series 8, 9-a. ANS
  5. Sardes-Synnada Series 7, 9-b. Munich
  6. Sardes-Synnada Series 7, 9-a. Copenhagen ex *SNGvAulock* 8444
  7. Sardes-Synnada Series 6, 9-d. Copenhagen ex *SNGvAulock* 3971
- 19    8. Sardes-Synnada Series 5, 8-b. BM
9. Sardes-Synnada Series 6, 8-a. ANS
  10. Sardes-Synnada Series 5, 8-a. Istanbul
  11. Pergamum, Philetaerus-tetradrachm. Copenhagen, Westermark (above n. 7), V. CLII-R.2
  12. Pergamum, Athena Nicephorus-tetradrachm. Paris. Le Rider (above, n 4), pp. 66–67, figs. 1–2
  13. Parium, tetradrachm, 2nd cent. B.C. *SNGLewis*, pt. 1, no. 829. (Courtesy of the Master and Fellows of Corpus Christi College, Cambridge)



# THE AUTONOMOUS WREATHED TETRADRACHMS OF MAGNESIA ON-MAEANDER

(PLATES 20-26)

NICHOLAS F. JONES

Among the major economic developments of the Middle Hellenistic period, perhaps the most conspicuous was the appearance throughout the Aegean region of a new style of silver coinage.<sup>1</sup> Best known to numismatists are the tetradrachms that, with spread flan and on the Attic standard, stated unambiguously by their local types the identity of the issuing authority. In many cases, also, the reverse was encircled by a wreath, and these tetradrachms became known in antiquity as *τέτραχμα στεφανηφόρα* or "wreath-bearrrs." Of widespread popularity, the new format, wreathed and unwreathed, was adopted on the mainland, most notably at Athens, in the islands, Macedonia and Thrace, but with greatest frequency by those free states of western Asia Minor which, by the Treaty of Apameia in 188 B.C., had secured their independence from royal domination.<sup>2</sup> Among these "autonomous" Anatolian mints was Magnesia on the Maeandrr River in Ionia.

<sup>1</sup> This study has grown out of my work during the American Numismatic Society's Graduate Seminar in 1977. To Margaret Thompson, Chief Curator, Nancy Waggoner, Curator of Greek Coins, and Herbert A. Cahn, the Visiting Professor, I am indebted for their teaching and guidance. None of them, however, should be assumed necessarily to be in agreement with the views that I express.

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<sup>2</sup> The extent and nature of the autonomous emissions will be treated more fully below, pp. 73-80.

Comprising drachms<sup>3</sup> and bronze strikings<sup>4</sup> as well as the tetradrachm, the Magnesian autonomous emissions were until recently comparatively rare. But the year 1972 saw the discovery in south-central Turkey, near the town of Kirikhan not far from the Syrian border, of a large hoard consisting of some 5,000 silver coins, including at least 269 specimens of the Magnesian tetradrachm.<sup>5</sup> The availability of some of these specimens has encouraged the undertaking of the first systematic study of the large autonomous silver.

The present study is based on a total of 243 tetradrachms, of which 111 are expressly attributed to the Kirikhan hoard. Thirty-eight others have appeared in sales publications since 1972 and may be presumed, in the absence of contrary indications, to have come from the hoard also. The remainder are scattered among various cabinets in this country and abroad without any record, in most cases, of date of discovery or provenance.

Study of the tetradrachms has given rise to a wide range of problems of varying scope. Establishment of the relative and absolute chronologies, though requiring lengthy discussion, needs no justification. Without a detailed die study and a close examination of the relevant hoard evidence, there can be no basis for further investigation. Particular findings here, too, will undoubtedly take on a larger significance when the as yet unstudied contemporary emissions of Magnesia's neighbors have received similar attention. For the present, however, the ramifications of the Magnesian series are far-reaching enough. Consideration of the significance of the reverse signatures, for one, has necessitated the evaluation of certain non-Magnesian epigraphic testimony which, I believe, if correctly interpreted, holds the key to the resolution of a

<sup>3</sup> For instance Weber 6004, 3.49 g: *Εὐφημος/ Πανσανίου*; ANS, drachm: 'Εράσιππος / 'Αριστέου.

<sup>4</sup> For instance *BMC Ionia*, p. 162, no. 39 (Pl. 19, 1): *Πανσανία[ς] / Εὐφήμ[ον]* See below, n. 27.

<sup>5</sup> The contents of the hoard are briefly described by Seyrig, *Trésors*, no. 23; and in *Coin Hoards* 1 (1975), nos. 87 A and B and 2 (1976), no. 90. The figure of 269 specimens represents something over a quarter of the 1,046 coins from all mints specifically reported in these publications. If the hoard really totaled as many as 5,000 silver (*Coin Hoards* 1, no. 87 A), the actual number of Magnesian tetradrachms may have exceeded 1,000.

controversy that bears on a number of late Classical and Hellenistic coinages. Lastly, I have ventured to recover at least in general terms the historical context of the Magnesian emission, a task that has of necessity taken me far beyond the limits of the present numismatic testimony and has involved a certain amount of speculation. Yet the proposed reconstruction will, I hope, mark an advance in our understanding of the larger economic and political movements of which the Magnesian autonomous series was a particular expression.

### RELATIVE CHRONOLOGY OF THE EIGHT ISSUES

Throughout the series the obverse and reverse types are of essentially uniform design:

*Obv.:* Bust of Artemis r. with diadem; bow and quiver at shoulder.

*Rev.:* Apollo standing l. on meander, in r. hand filleted branch, tripod at his l. The ethnic ΜΑΓΝΗΤΩΝ and name with patronymic stand at either side of the figure; the whole encircled by laurel wreath.

Cursory inspection of the tetradrachms shows that we are dealing with a number of separate issues. These are defined by the occurrence of different reverse signatures, of which a total of eight are thus far attested. The attested names are Pausanias son of Euphemos, Apollodoros son of Kallikrates, Euphemos son of Pausanias, Pausanias son of Pausanias, Herognetos son of Zopyrion, Erasippos son of Aristeas, Aristokrates son of Andron, and Pythodoros son of Demokrates. Of the eight issues, six are represented in the present catalogue by a minimum of 16 specimens each. For the issues of Aristokrates and Pythodoros, however, we have only single examples. By itself, the latter statistic would suggest that still other signatures remain to be discovered. On the other hand, all eight names were known at the time of the discovery of the Kirikhan hoard, of which the more than 100 catalogued specimens failed to add a single new signature. If, therefore, our record of reverse signatures falls short of completion, it is almost certainly a question of issues minted later than the accumulation of the Kirikhan lot. For reasons given below, however, the existence of such later unattested issues will appear a doubtful possibility at best.

A remarkable feature of the series is the consistent pattern of obverse die transfers. As shown in Table 1, the majority of the obverse dies—23 of a total of 36 or 64%—are shared by more than one issue. Moreover, with only one exception (obverse die no. 8), all these transfers occur between pairs of issues; that is, the obverses associated with a given signature are always used in conjunction with the reverses of only one other issue. Thus, all five of Apollodoros' obverses (nos. 1–5) are shared with Pausanias Euphemou, whose additional three obverses (discounting the exceptional case just mentioned) are shared with no other issue. Similar relations obtain between the obverses of Euphemos and Pausanias Pausaniou, and of Herognetus and Erasippos. At the same time, the single attested obverses of Aristokrates and Pythodoros, shared by no other issue, are so unlike each other stylistically (Plate 26) that it seems best, pending the appearance of additional specimens, to regard the two emissions as independent of each other. Even so, these special cases are hardly sufficient to compromise the general conclusion that, if our record of dies were complete, all obverses would be found to have been systematically shared between paired issues.<sup>6</sup>

From the prevalent pattern of obverse die transfers alone it does not follow that the linked issues were struck concurrently, but for this there is more than one indication. Obverse die wear, in the first place, reveals no consistent priority in the use of the one or the other set of reverses with the anvil dies of a given paired emission. Evidently, to judge from the available evidence, some care was taken that each and every obverse be represented by reverses of both signatures. Simultaneity of emission is also indicated by the pattern of reverse die linkage which, where attested, establishes identical sequences of obverse die use within paired issues (see Table 1); this would hardly have resulted if one issue had followed the other. Finally, in many cases of obverse transfer, comparison of the two sets of reverses reveals marked stylistic

<sup>6</sup> Of the 13 non-transferred obverses only nos. 9 and 25 of Euphemos appear doubtful in this respect. For no. 9 four reverses are attested by ten specimens; for no. 25 four reverses by eight specimens. Barring anomalies due to accident of preservation, it may be that in these instances the plan was to produce all the tetradrachms of one issue before transferring the obverse to the second set of reverses, the die breaking down before this could be accomplished. Generally, however, as will be observed, the striking of the paired issues went on simultaneously.

TABLE 1  
Obverse Die Transfers and Reverse Linkage

Pausanias Euphemou	Apollodoros Kallikratou
"plain" style obverse; ethnic-left reverse	
1	1
2	2
3	3
4	4
"fine" style obverse; ethnic-left reverse	
5	5
6	
"fine" style obverse; ethnic-right reverse	
7	
8	
Euphemos Pausaniou	Pausanias Pausaniou
8	8
9	
10	10
11	
12	12
13	13
14	14
15	
16	16
17	17
18	18
19	
20	20
21	21
22	
23	
24	
25	
Herognetos Zopyrionos	Erasippes Aristeou
26	
27	27
28	28
29	29
30	30
31	31
32	32
33	33
34	34
Aristokrates Andronos	(?)
35	
Pythodoros Demokratou	(?)
36	

similarities against the reverses of other issues or even against those used with other obverses within the same issues. From many possible examples one could cite reverses nos. 17c of Euphemos and 17a of Pausanias Pausaniou (Plates 24–25). Minor variations apart, the types are virtually identical stylistically. Such similarities are best understood on the assumption that the two dies, cut by the same engraver at about the same time, were used concurrently with the common obverse.

The striking of paired issues is a remarkable phenomenon, but not without parallel, even within our own mint. Certain Magnesian bronze issues of the second century sometimes bear two signatures on the reverse type.<sup>7</sup> Though the form of presentation differs, the underlying mint administration, to which we shall turn later, may have been the same. The contemporary drachms and bronze, however, like the large silver, bear a single name, and only the availability of large numbers of specimens would allow us to determine whether or not they too were struck on a similar basis.<sup>8</sup>

The next step is to determine the order in which the dual emissions appeared. Fortunately, a valuable clue is provided by the existence of an otherwise anomalous obverse die transfer between two pairs of issues. This is obverse no. 8 of Pausanias Euphemou, Euphemos Pausaniou, and Pausanias Pausaniou (Plates 21, 23–24). On this one occasion, presumably, an anvil die was still comparatively fresh at the conclusion of the striking of one emission and reserved for use at the beginning of the next. Whatever the precise circumstances, it may be safely inferred that the two pairs of issues are contiguous. Almost, but not quite, as certain is the sequence of strikings. The die is used extensively by the sons of Pausanias: five reverses are attested for Euphemos (nos. 8a–e) and four for Pausanias (nos. 8a–d) by a total of eleven specimens. Some of these, moreover, show considerable die

<sup>7</sup> For instance, *SNG Lewis*, 932 (ca. 188–150 B.C.): *Nικάνωρ καὶ / [Ζώ-] πυρο[ς]*; *BMC Ionia*, pp. 163–64, nos. 44–47: *Εὐκλῆς / Κρατίνος* (all dated “after circ. B.C. 190”). Kern, p. xxiii, lists among “Die Beamten der autonomen Münzen” a silver coin bearing the inscription *Παυσανίας Μητρόδωρος*, which he assigns to “the same time as Eukles Kratinos.”

<sup>8</sup> For the signed drachms of Euphemos Pausaniou and Erasippos Aristeou, see above n. 3; for the signed bronze issue of Pausanias Euphemou, notes 4, 26.

breakage. By themselves, these facts suggest that the die, if used first here, would not have been kept and subsequently passed onto another emission. Only one reverse, by contrast, attested by a single specimen, is recorded in the name of Pausanias Euphemou (no. 8a). Disappointingly, we cannot be sure about the condition of the die since the available photograph is somewhat murky and, though it shows no breaks, cannot be relied upon on this point (Plate 21). The conclusion, therefore, that the Pausanias Euphemou-Apollodoros issues stood first must be supported by evidence other than that of die linkage and deterioration.

Such evidence is available in the form of general considerations of die design and, to a lesser extent, workmanship. These are not only sufficient to demonstrate the priority of the issues of Pausanias Euphemou and Apollodoros over those of the sons of Pausanias, but will also show that theirs were the initial strikings of the series.

The Pausanias Euphemou-Apollodoros dies exhibit two quite different obverse and reverse styles, which divide the emission into two stylistically distinct groups. The one obverse-reverse format is unique among the eight attested issues; the other is shared by all the other catalogued die combinations. If, accordingly, we can determine the priority of the two styles within the Pausanias Euphemou-Apollodoros emission, we can go on to infer that emission's relation to the contiguous issues of the sons of Pausanias.

The two obverse styles may be contrasted as "plain"<sup>9</sup> and "fine," which will serve as convenient labels. The "plain" style obverses, very possibly the work of a single hand, total only four, each being attested for both Pausanias and Apollodoros (nos. 1–4: Plates 20–22). The style is characterized chiefly by the treatment of Artemis' hair, which appears to be parted at the middle and combed straight toward the ears in thick, coarse strands, then back over the diadem in several even thicker rolls; the hair at the back of the neck is swept into a great upward-turned curl. By contrast, the obverses of the "fine" style (nos. 5–36: Plates 21, 23–26) exhibit a much more refined working

<sup>9</sup> By this deliberately neutral term I attempt to avoid the connotations of the labels attached to the style by other commentators: e.g. "droit de style dégénéré," Seyrig, *Trésors*, p. 78 (Apollodoros no. 4a); "un droit d'une gravure barbare," and p. 84 (Pausanias Euphemou no. 2a).

of what is essentially the same hair style. Though disposed in a variety of ways, the strands are invariably of finer texture, whether on the head or over the diadem; the ringlets below the ear and the locks gathered behind the head radiate in a profusion of delicate wavy curls: altogether, a portrait consistently more intricate, detailed, and polished.

While there can be no question as to the striking difference in the overall impact of the two styles, this very fact makes it a difference difficult to assess, at least in chronological terms. Clearly, more than one die cutter is at work and, given the relatively short span of emission, this circumstance alone might account for the change in style. Fortunately, the same is not true of the two reverse formats, for here we can see clear signs of a progressive development from a rather primitive to a much more sophisticated design. With all the "plain" style obverses are coupled reverses on which, among other distinguishing features, the ethnic stands to the left of Apollo; with all the "fine" style obverses except two, nos. 5 and 6 of Pausanias Euphemou and no. 5 of Apollodoros, the ethnic stands to the right. There are a number of signs that the ethnic-left reverses should be counted among the very earliest dies of the coinage.

For reasons perhaps beyond recovery, certain of the ethnic-left reverses of Pausanias appear to have been cut before those of his colleague, although, again, the actual striking of the tetradrachms was carried out simultaneously. Thus the cutter of Pausanias' reverse no. 1a (=2a) (Plate 20), either by intention or oversight, appears to have omitted the patronymic in the signature, which was scratched in later (by another hand?) in faint, almost illegible characters. At this very early stage there was evidently some uncertainty as to just what information was to be presented on the type. On reverse no. 1b (Plate 20), by contrast, the name is given in full, but in letters so sloppy and ill-positioned that one can think only of an apprentice die cutter. Experimentation, or confusion, also attends the treatment of the maeander. Whereas Pausanias' reverse no. 1a shows the same single-line pattern of all of Apollodoros' ethnic-left dies, this is inverted in no. 2c, and in no. 3a an extra loop is added at the left (Plate 20); no. 1b is peculiar also in that it provides the only example of the parallel double-line maeander used occasionally in Magnesia's earlier silver tetradrachms (Plate 20).

Following these trial efforts there occurs a dramatic change in the central figure of Apollo. In the earliest dies the stocky and massive-limbed youth stands nearly frontal with head right, right arm reaching awkwardly through the letters of the ethnic, left unnaturally concealed behind the upper part of the tripod (Pausanias nos. 1a [=2a], b, 2c, 3a: Plate 20; Apollodoros nos. 1a, 2b: Plate 22). Another hand varies the type with a taller, lanky Apollo, whose left arm is brought to the front of the tripod (Pausanias no. 2b: Plate 20; Apollodoros no. 2a: Plate 22). A major, and long-lasting change occurs when, with the retention of the ethnic-left format, the figure is rotated to the right, the left leg bent forward, the left elbow made to rest on the tripod, the whole being given a gracefulness at times bordering on effeminacy (Pausanias nos. 4a, b, 5a, 6a: Plate 21; Apollodoros nos. 3a, b, 4a-d, 5a, b: Plates 22-23).

Final improvements come about through a complete reorganization of the type. With reverses nos. 7a and 8a of Pausanias (Plate 21) the inscriptions exchange places, the two-line signature moving to the left where it is no longer cramped by the presence of the tripod. Somewhat more space is allotted for the symbol of the state, which, beginning with these dies, now appears in its familiar cruciform design, first as a single line (no. 8a), thereafter as two interlocking lines (no. 7a). Finally, Apollo's figure is made somewhat more erect, and his right arm is dropped so as not to interrupt the signature as it had previously interrupted the ethnic. Its elements finally in harmony and consolidated, this is the reverse design in use throughout the remainder of the attested issues.

We are at liberty to infer that the "plain" style obverse/ethnic-left reverse format of the Pausanias Euphemou-Apollodoros pair initiated the series. Unsatisfactory early results quickly led to revisions in die design, very likely also to the commissioning of new die cutters, and before the emission was completed a major reworking of the obverse and reverse formats was undertaken. With the breaking down of the last "plain" anvil die and the substitution of the new "fine" obverses, there presumably remained usable ethnic-left punch dies, which would account for the occurrence of transitional hybrid die combinations in both issues (Pausanias nos. 5 and 6; Apollodoros no. 5). The two new types appear together at the conclusion of Pausanias' emission

(nos. 7 and 8); that they are not similarly attested for Apollodoros is most likely to be attributed to accident of preservation.<sup>10</sup>

The paired issues of Euphemos and Pausanias Pausaniou commence with the obverse shared with the preceding issues (no. 8) and continue with a number of reverse-linked strikings (nos. 9–13). Thereafter, in the absence of links, the sequence in which the obverse dies were used is uncertain. One might be tempted to invoke arguments from style, for there are certain pronounced variations in the treatment of the obverse type, but such an approach is undercut by the attested linkage of somewhat dissimilar obverses (e.g. nos. 12 and 13: Plates 24–25). Evidently more than one die cutter was at work, and dies were used as they became available without regard, of course, to stylistic continuity. It is also not unlikely that more than one anvil was in use at a given time. In any case, this is a relatively unimportant consideration since, as the hoard evidence will show, our series appeared over a comparatively short period of time. Except where reverse die linkage is attested, therefore, no particular significance is to be attached to the order in which the obverse dies of these (and of the following) issues are listed in the catalogue.

The transference of obverse no. 8 and the sequence of its use correspond nicely to a remarkable feature of these emissions, the apparent kinship of Euphemos and Pausanias with each other and with their predecessor, Pausanias Euphemou. In view of the demonstrated sequence of the issues, it is likely, though not certain, that Pausanias was immediately succeeded by his two sons. What significance, however, if any, is to be attached to this apparent consanguinity, is not clear.

Stylistically similar to the preceding issues are those of Herognetos (nos. 27–34) and Erasippos (nos. 26–34), which display the highest incidence of obverse die transfer in the coinage—all but one are found shared among the catalogued specimens. Chronologically, there can be little doubt that the two issues followed immediately upon the emission of the sons of Pausanias: both die format and the high level of workmanship preclude the possibility that these dies preceded those

<sup>10</sup> On the completeness of the obverse die record for the several issues see below, pp. 77–78.

crude efforts that we have identified as marking the beginning of the series (Plates 25, 26).

This leaves only Aristokrates (no. 35) and Pythodoros (no. 36), issues attested, again, by only a single example and neither sharing its obverse die with any other tetradrachm. Both, however, do exhibit the "fine" style obverse and the ethnic-right reverse and so cannot be early (Plate 26). That neither issue, moreover, stood between the two linked pairs and the Herognetos-Erasippos pair is virtually guaranteed by the failure of either to appear in hoards, so far as is known, in which the three pairs are represented. It is likely, accordingly, that both followed at some unknown interval the emission of Herognetos and Erasippos. The extent of this interval is among the questions to which we shall now turn in considering the absolute chronology of the series.

#### ABSOLUTE CHRONOLOGY

Most standard handbooks and reference works, particularly the older ones, date the Anatolian autonomous tetradrachms within the extreme limits of the Battle of Magnesia ad Sipylum and the creation of the province of Asia.<sup>11</sup> Certain more recent studies, working from a plentiful and significant hoard record, have succeeded in narrowing this range considerably.<sup>12</sup> Still, there exists no separate treatment of the Magnesian chronology, to which the large number of unpublished Kirikhan hoard specimens and, to a lesser extent, contemporary Magnesian epigraphic testimony have a particular relevance.

In hoards of the late third and early second centuries B.C., Magnesia, like other Anatolian Greek cities, is predominantly represented by posthumous Alexanders and Lysimachi. Of these hoards the latest are the Latakia hoard of 1759, dated ca. 169 B.C. by Seyrig, and later still the Babylon hoard of 1900, dated ca. 155-150 B.C. by Regling.<sup>13</sup>

<sup>11</sup> For instance HN, p. 582: ca. 190-133 B.C.; *BMC Ionia*, p. 162: after ca. 190 B.C.

<sup>12</sup> Including, of course, Seyrig's *Trésors* and C. Boehringer, *Zur Chronologie Mittelhellenistischer Münzserien 220-160 v. Chr.* (Berlin, 1972), hereafter cited as Boehringer. On the latter's general chronological framework, further comment will follow below.

<sup>13</sup> *IGCH* 1544, 1774. Throughout, except where otherwise noted, data on hoards are taken from *IGCH*, which may be consulted for attributions and references.

The latter deposit, despite its distant location, far from Magnesia and from the provenances of the known hoards containing Magnesian wreathed tetradrachms, may nonetheless be taken as providing an approximate terminus post quem for the beginning of the series. For, whereas autonomous civic issues, wreathed and unwreathed, occur for the mints of Eretria, Athens, Kyzikos and Mytilene (wreathed), and Alexandreia Troas, Ilion and Kos (unwreathed), from Magnesia (and a number of other states represented in later hoards by autonomous types) we find only late posthumous Alexanders. We must assume that if the Magnesian wreathed tetradrachm had appeared much before this time, it would have found its way into this hoard.<sup>14</sup>

The hoards in which the autonomous tetradrachm does occur are seven in number and are confined to the general area of the ancient Seleucid kingdom, chiefly Northern Syria. Our tetradrachms thereby conform to the well-known pattern of distribution of the autonomous issues, which are only rarely found in Asia Minor hoards. The seven are listed below. Each is followed by the date of the latest dated specimen, by the number of specimens reported in the literature, and by references to the specimens recorded in the present catalogue.<sup>15</sup>

1. Akkar 1956 (Seyrig 18, *IGCH* 1559). 150–145 B.C. Five reported specimens, including one under no. 6a of Pausanias Euphemou.
2. Ghonsle 1955 ? (Seyrig 19, *IGCH* 1560). 150–145 B.C. Two reported specimens: under nos. 4a of Apollodoros and 18a of Pausanias Pausaniou.

<sup>14</sup> K. Regling, "Hellenistischer Münzschatz aus Babylon," *ZfN* 1928, pp. 92–132, no. 34, lists the condition of the single Magnesian specimen as E2, i.e. "somewhat rubbed," implying considerable circulation. But this information provides no further clue as to the chronology of the autonomous tetradrachm; there is no reason to believe that the specimen stands particularly late in the Magnesian Alexander series, or that, even if it does, the earliest wreathed types followed in quick succession. On the other hand, there is a real chance that for a short period Alexanders and autonomous types circulated concurrently. In the present deposit, for example, Mytilene is represented by both (Alexander: nos. 28, 29 ?, 30 ?; wreathed tetradrachm: no. 76).

<sup>15</sup> For particulars on the Seleucid issues and on the Magnesian specimens which, because they are not illustrated, have not been included in the present catalogue, see Seyrig, *Trésors*.

3. Northern Syria ("Haiffa") 1906 (Seyrig 20, *IGCH* 1556). 146/5 B.C. Three reported specimens: under nos. 19a of Euphemos, 30a of Herognetos, and 30a of Erasippos.
4. El-Aweiniye 1941 (Seyrig 22, *IGCH* 1550). No dated coin. Two reported specimens, including one under no. 30c of Erasippos.
5. Kirikhan 1972 (Seyrig 23). 143/2 B.C. 269 reported specimens, which may or may not include some or all of the specimens in the present catalogue and 38 others which have appeared in publications since 1972. See above, p. 64 and n. 5.
6. Ras Baalbek ("Zahle") 1957 (Seyrig 24, *IGCH* 1593). 143/2 B.C. Eight reported specimens, including one each under nos. 2a of Pausanias Euphemou, 8a of Pausanias Pausaniou, and 30b of Erasippos.
7. Aleppo ca. 1930 (Seyrig 25, *IGCH* 1562). ca. 138 B.C. Two reported specimens.

Typically the hoards consist predominantly of Anatolian autonomous tetradrachms with a small admixture of Seleucid royal issues. Only the El-Aweiniye deposit (no. 4), which was composed entirely of wreathed tetradrachms of Magnesia, Aigai, Kyme and Myrina, is exceptional in this regard. For our purposes a particularly significant fact is that if, as has been suggested, the Akkar and Ghonsle hoards are really parts of the same deposit,<sup>16</sup> all the hoards, except the Aleppo, the latest of the seven, contained an example of the strikings of either Herognetos or Erasippos or both. The earlier of the hoards, therefore, will provide a terminus ante quem for the emission of the first six issues.

The Akkar hoard, in which two tetradrachms of Herognetos are recorded, was dated by Seyrig to ca. 150 B.C.<sup>17</sup> on the basis of a solitary tetradrachm of Alexander Balas, whose reign lasted from 150 to 145 B.C. But as Seyrig himself noted, the coin does not bear a regnal date and, equally significantly, shows signs of wear ("assez bon"). Unless, therefore, some reason can be adduced why an earlier rather than a later (undated) issue should have been included in the lot, a date for the burial closer to 145 B.C. should be left open as a possibility. A similar conclusion should probably be drawn from the contents of the Ghonsle

<sup>16</sup> Seyrig, *Trésors* 19, and *IGCH* 1560.

<sup>17</sup> The date appears in the "Conspectus des monnaies contenues . . ." at the end of Seyrig, *Trésors*.

lot, of which the latest datable specimens were a pair of drachms of Balas, again without a regnal year; here, however, Seyrig had nothing to say regarding their condition.

The remaining four hoards (nos. 3, 5, 6 and 7), securely placed by dated Seleucid royal issues within the period 146-ca. 138 B.C., serve mainly to support the terminus established by the Akkar-Ghonsle material. Otherwise three of the four, only sparsely represented in the present catalogue, are of little value. To the Kirikhan lot, however, closer attention must be given since it, as a consequence of the large number of specimens available for study, sheds valuable light on the later chronology of the series.

As stated earlier, the catalogue contains a total of 243 specimens, of which 149 are either expressly attributed to the Kirikhan hoard or have appeared in sales publications since 1972. The tetradrachms attest a total of 36 and 31 obverse dies for the catalogue and hoard respectively. Their distribution over the eight known issues has been tabulated in Table 2.

TABLE 2  
Distribution of Specimens and Obverse Dies among the Issues

	<i>Specimens</i>		<i>Obv. dies</i>		<i>Av. no. Spec./Obv. die</i>	
	1972 hd.	cat.	1972 hd.	cat.	1972 hd.	cat.
P.E.	9	20	16	33	6	8
A.K.	11	20	17	33	5	8
E.P.	42	70	70	114	12	15
P.P.	28	70	44	114	10	13
H.Z.	22	59	39	94	8	9
E.A.	37	59	55	94	9	9
Totals	149		241		31*	
					34*	
					4.8	
						7.1
A.A.		1		1		1.0
P.D.		1		1		1.0
Totals		243		36		6.8

\* Obverse die no. 8 counted only once.

In the case of a body of material such as ours, statistics must be interpreted with caution. The number of specimens is not particularly large, and, as will become apparent, the Kirikhan hoard tetradrachms cannot be regarded as a random selection from current circulation. Still, the overall pattern of survival permits some important inferences.

Particular note should be taken of the average number of catalogued specimens per obverse die, which, if the paired issues are taken as units, increases markedly with the progress of the series: 2.9, 4.4, 6.6 (Kirikhan); 4.1, 6.3, 10.4 (all specimens). According to expert statistical opinion, the higher the figure, the more complete is the record of obverse dies. In absolute terms, the presence of from six to eight specimens per die is said to provide a strong indication that few, if any, obverses remain unattested.<sup>18</sup> Thus, given ideal conditions, the figures for the catalogue as a whole would show substantial incompleteness in the first emission, possible completeness in the second, and virtually certain completeness in the third. With this information it should be possible, with reference to the actual number of obverse dies attested, to estimate in approximate terms the original size of the emissions. Such approximations could, in turn, be of chronological significance.

Yet the conditions pertaining to the present evidence fall short of ideal. For the Kirikhan lot, which comprises 61% of the catalogue, the survival rates cited above are in part attributable to pronounced irregularities in the representation of die combinations among the three emissions. Specifically, for the Pausanias Euphemou-Apollodoros pair of issues no die combination is attested by more than two hoard specimens, but for the sons of Pausanias there are perhaps four such instances (Euphemos nos. 9b, 10d?; Pausanias nos. 10d, 17a) and for the third emission no less than seven (Herognetus nos. 27a, 29a; Erasippus nos. 27a, e, 28b, c, 31a). Of the last group most noteworthy are Herognetus no. 27a (6 certain Kirikhan hd. specimens, 7 very likely), and Erasippus nos. 27a (2 certainly, 3 very likely) and e (8 certainly,

<sup>18</sup> For the statistical data and assumptions involved here see Thompson, *The New Style Silver Coinage of Athens*, ANSNS 10 (New York, 1961), 1, 711 (hereafter cited as Thompson, *Athens*), reporting the work of Dr. Francis Marriott. For a more recent statement on the problem, with bibliography, see G. T. Guilbaud, "A propos de l'estimation du nombre des coins," *BSFN*, vol. 29, no. 7 (July 1974), pp. 625-34.

11 very likely), all from the same obverse die. Such concentrations, when measured against the overall average for the catalogue of 1.71 tetradrachms per die combination, obviously cannot be attributed to chance. Rather, one would suppose that certain strikings of the middle pair and many, if not all, of the third either never circulated or circulated very little after leaving the mint. This inference is confirmed by the consistently very fresh condition of the hoard specimens as a whole, particularly of the later issues, which in some instances appear FDC. Further speculation, however, concerning the circumstances of the accumulation of the tetradrachms and their disposition between the time of their striking (before ca. 145 B.C.) and their burial several years afterward (143/2 B.C. or later) must await study and publication of the hoard's entire contents.

Though our sample can no longer be considered random, the impact of the anomalies should not be overstressed. There are signs that the survival ratios may still be of some significance. Most telling is the existence of a rough correspondence between the expected degree of completeness for a given emission and the degree of completeness of its obverse transfer record (see Table 1). Thus, the inference that the Pausanias Euphemou-Apollodoros strikings were larger than the number of recorded obverse dies would indicate is supported by the already noted absence of ethnic-right reverses among the tetradrachms of Apollodoros, for whom only five of the eight obverses used by his colleague are attested. Similarly, the possibility that the record for the issues of the sons of Pausanias falls somewhat short of completion is reinforced by the presence of eight unshared obverses among a total of 18. For the third pair, however, the high specimen/obverse die ratios, even after allowance is made for abnormally high representation by certain dies, indicate a fairly complete record. The pattern of obverse transfers points in the same direction: only one of nine dies is not carried over. To the possible objection that the Kirikhan lot might have been closed prior to the completion of this emission it may be replied that none of the nine obverse dies fails to appear among the catalogued hoard specimens. Twenty-six specimens from other sources attest only obverses occurring in the hoard. We may be confident, therefore, that the obverse die record for these two issues is very nearly, if not in fact, complete.

This is a valuable inference. It shows that the Herognetos-Erasippos issues were probably no more than half the size of the preceding emission, for which at least 18 dies, quite possibly more, were used. The mint is curtailing its operation, either due to a dwindling bullion supply, or because the need for large silver has begun to be satisfied, or for some other reason. Whatever the explanation, we have grounds for supposing that not many new issues were struck following the formation of the Kirikhan lot. Quite possibly the emissions of Aristokrates and Pythodoros represent the only two such issues; in any event, there is no good reason to think that there were many more. A terminal date for the series ca. 140 B.C., accordingly, appears highly probable.

By way of supplementing the hoard record we may consider briefly the additional testimony provided by contemporary Magnesian inscriptions. This testimony is limited to a small number of references, some quite problematic, to our eight Magnesians.

Among the attested eponymous *stephanephoroi* occur two homonyms without the patronymic: an Apollodorus in a text no earlier than the middle of the second century B.C., Kern no. 88a, l. 1,<sup>19</sup> and a Euphemos in a text of the beginning of the first century B.C., Kern no. 110b, l. 1. But both names were too common at Magnesia to allow identification; the latter individual, in any event, unless Kern's date is seriously wrong, is more apt to have been the son or even grandson of our Euphemos. More likely is Euphemos' identification with the *neokoros*, or temple steward, of Artemis Leukophryene *Εὐφήμου τοῦ [Πανσανίου]* in a text dated by Kern to 138 (or perhaps 132) B.C., no. 105, ll. 2–3. Although the editor's restoration of the father's name is not independently supported, the date of the document squares well with the hoard evidence reviewed above. Somewhat earlier is Kern no. 94, a decree of the demos honoring [... *Εὐφημοὺς Πανσανίου*] (l. 1; cf. l. 5:[*Εὐφημοὺν*]). This text Kern dated to the beginning of the second century B.C. and, on the understanding that the autonomous silver appeared "nach 190" (p. 99), assumed that the honorand signed the silver and was the grandfather of the Euphemos in no. 105. But the chronology is wrong and the restoration, as in the previous case, fails

<sup>19</sup> O. Kern, *Die Inschriften von Magnesia am Maeander* (Berlin, 1900; hereafter cited as Kern).

to be supported by any independent evidence. At best we are left with the good possibility that our Apollodorus and Euphemos served as eponymous magistrate and *neokoros* (Kern no. 105) at some time during their careers.

Less doubtful as to interpretation, but of uncertain chronology, is a final text, Kern no. 93, documenting a boundary dispute between Magnesia and her neighbor Priene. The two parties had approached the Roman Senate, which delegated the resolution of the matter to a praetor, M. Aemilius M. f., who in turn appointed Mylasa as arbiter. The text includes a list of the 12 *endikoi*, a commission of Magnesians who successfully represented their state's side of the quarrel before the Mylasian judges. Among the names are Pythodoros Demokratou, Pausanias Euphemou and Aristokrates Andronos (d 6, 7, 14). Elsewhere in the document occur references to a Pausanias, *neokoros* of Artemis Leukophryene (a 30), and to a Pythodoros, *presbeutes* of the Magnesians (b 7), who might well be identical with the homonymous *endikoi*. Yet there appear to be no secure grounds for choosing between the rival proposed dates for the document, 161 and 143 B.C.<sup>20</sup> On either chronology, however, if the hoard evidence has been interpreted correctly, it follows that the three Magnesians, as, possibly, Apollodorus (?) and Euphemos (?), were prominent in civic affairs at the time of their minting activity. This inference will play an important role in our discussion of the significance of the eight reverse signatures.

In conclusion, the hoard evidence, with which the scanty epigraphic testimony is compatible, indicates a period of emission for the three paired issues of ca. 155–ca. 145 B.C., with the series probably reaching completion by ca. 140 B.C. At what intervals within this decade and a half the several emissions were struck cannot be determined. But neither the relatively brief duration of the coinage nor the fluctuating size of the issues encourages the assumption of an annual or other periodic basis.

<sup>20</sup> The date turns upon the identification of the praetor, M. Aemilius M.f. For the sources on the problem, with discussion, see T. R. S. Broughton, *The Magistrates of the Roman Republic* 1 (New York, 1951), pp. 443f., 472f. Broughton himself opts for the later dating. For the text see also *J. Priene* no. 531; *SIG* 679; *SEG* 4.508, 13.494.

THE EIGHT REVERSE SIGNATURES<sup>21</sup>

To this point we have spoken only of "issues." It is now time to investigate the significance of the eight signatures whereby these issues are defined. In doing so, we shall keep in mind three major points established in the previous discussion, with which any satisfactory explanation will have to be consistent. First, as the die analysis has shown, the tetradrachms were struck in paired emissions, paralleled, as noted above, by certain second century B.C. Magnesian bronze issues. Second, the relatively short period of emission for the series suggests, again, that at Magnesia the striking of silver coin was not, as for example at Athens, an on-going, annually recurring event. Hoard evidence for earlier Magnesian tetradrachms and the histories of neighboring Anatolian mints support this inference.<sup>22</sup> Finally, the demonstrated prominence in public affairs of several of our eight Magnesians is another remarkable feature of the record that must be accommodated.

One explanation of the names, which could be supported by reference to the practice of certain other states, is that the eight Magnesians were regular civic magistrates who had, as an extraordinary extension of their duties, played some part in the operation of the mint. But this approach holds little promise in the present case since a relatively copious epigraphic record provides no example of an appropriate dual magistracy with which our paired emissions might be correlated. Thus no special significance is to be found in the previously mentioned occurrences of our Magnesians in public offices, Apollodoros (?) as eponymous *stephanophoros* and Euphemos Pausaniou (?) as *neokoros* of the state cult of Artemis Leukophryene, posts both occupied by a single individual. As the record of concurrent sharing of obverse dies unmis-

<sup>21</sup> The subject has recently been treated comprehensively by P. Gauthier, "Légendes monétaires grecques," *Numismatique Antique: Problèmes et Méthodes* (Nancy/Louvain, 1975), pp. 165–79. References to earlier bibliography may be found at p. 165, n. 1.

<sup>22</sup> According to Boehringer, *Chronologie*, p. 48, after 190 B.C. posthumous Alexanders were struck only infrequently by the Anatolian mints. For Magnesia, his table on p. 194 (no. 21) shows Alexanders in only three hoards later than the turn of the century: Mektepini 1956, Latakia 1759, Babylon 1900.

takably shows, collegiality played an important role in the mint's administration.

Another explanation for the names, likewise suggested by the documented practice of other states, is that our eight Magnesians were officers of the mint. But no such "mint magistrate" is attested for Magnesia, and so little is known of the activities of these officials in states where they are attested that it would be risky indeed to suppose their existence for Magnesia. Besides, one would be hard put to reconcile the suggestion of a periodically appointed official—in fact, two officials—with the short-lived emission of the large silver. What would have been the use of such magistrates when the silver was not being struck? Could the coining of bronze alone have occupied their time?

Still a third interpretation remains, and that is that signatures such as ours are to be understood in terms of a monetary liturgy. On the usual formulation of the theory, which modern scholars have invoked in connection with a number of late Classical and Hellenistic coinages,<sup>23</sup> Pausanias, Apollodoros, and the others will have been tapped by the state to contribute toward the production of the new silver and, in recognition of their contribution, have been honored by the appearance of their names upon the reverses of their respective issues. Here, at last, is a hypothesis that is unobjectionable on internal or external grounds and fully compatible with the three salient features of the Magnesian series noted above. But it also possesses a great weakness in that no one has yet succeeded in supporting the theory with any evidence other than that provided by the reverse signatures themselves. The "monetary liturgy" is, in other words, a wholly hypothetical construct; were there no reverse signatures to explain, there would be no reason, given the state of current knowledge, to believe that such an

<sup>23</sup> The fullest and most convincing exposition of the theory is that of Thompson, *Athens*, pp. 593–99, in relation to the new style silver. See also the discussions of A. R. Bellinger, "The First Civic Tetradrachms of Ilium," *ANSMN* 8 (1958), pp. 23–24; J. Kroll, "The Late Hellenistic Tetrobols of Kos," *ANSMN* 11 (1964), pp. 94–99; J. G. Milne, *Kolophon and its Coinage: a Study*, *ANSNNM* 96 (1941), pp. 26–29; K. Regling, *Die Münzen von Priene* (Berlin, 1927), pp. 156–68; and W. Wallace, "Some Eretrian Mint Magistrates," *Phoenix* 4 (1950), pp. 21–26. Compare J. P. Barron, *The Silver Coins of Samos* (London, 1966), p. 139; and T. Gerassimov, "The Alexandrine Tetradrachms of Cabyle in Thrace," *ANSCent*, p. 276.

institution ever existed. On what grounds could we apply the theory to the Magnesian silver?

One encouraging sign is that during the Hellenistic Age, and later under the Empire, Magnesia is known from epigraphic sources to have observed the use of liturgies.<sup>24</sup> Another, of less certain value, is provided by an inscription of Imperial date, Kern no. 164, in which honors are recorded for one Moschion son of Moschion. At the close of an extensive cursus the honorand is cited as *χατασταθεὶς δὲ καὶ ἐπὶ τῆς χαράξεως τοῦ λεπτοῦ / χαλκοῦ*: “and also having been put in charge of the striking of the small bronze” (ll. 12–13). The verb *χαθίστημι*, among its many other uses, is in fact a technical term for the appointment of a person to a liturgy;<sup>25</sup> the lack of a title, in any case, shows at the very least that we are not dealing with a magistracy. To the possible objection that Moschion could not, on the monetary liturgy thesis, have performed a liturgy because we have no bronze coins bearing his name, one may invoke Louis Robert’s reasonable suggestion that the emission belongs to the reign of one of the several emperors in which Magnesian coins did not as a rule bear a signature.<sup>26</sup> It will also be recalled, to account for another apparent difference, that at least one of our eight Magnesians, Pausanias Euphemou, signs bronze as well as the large silver.<sup>27</sup> It might very well be, therefore, that Moschion’s distinction reflects, however indirectly, an earlier Hellenistic form of monetary liturgy.

These indications by themselves would be of little significance were it not for the availability of other evidence, which, I believe if correctly interpreted, not only resolves beyond any reasonable doubt the general question of the existence of the institution but also provides a parallel

<sup>24</sup> Kern, no. 98 (*SEG* 15.667; *SIG* 589), ll. 17–18 (*τοῦ λητουργοῦ/γοῦντος θύτου τῆς πόλει*), 58 (*τοῖς λητουργήσασιν*) (197/6 B.C.). No. 163, ll. 15–16. (*πᾶσάν τε λειτουργοῦ/γίαν*) (Roman Imperial).

<sup>25</sup> *RE* 12, s.v. “Leiturgie,” col. 1874 (Oehler).

<sup>26</sup> L. Robert, *Monnaies Grecques* (Geneva/Paris, 1967), p. 104.

<sup>27</sup> *BMC Ionia*, p. 162, no. 39 (Pl. 19, 1): *Παυσανία[ς] / Εὐφήμον[ος]*. Just conceivably, as suggested by the second century B.C. bronze issues bearing two signatures cited earlier (p. 68), the second line should be restored as nominative. Yet even in that event, there could hardly be any doubt concerning the identification of the two signers with the sons of Pausanias of our silver tetradrachms.

that will account for all the peculiarities of the Magnesian silver. The evidence is a decree of the Hellespontine city-state Sestos honoring one Menas son of Menes.<sup>28</sup> Dated to the period 133–ca. 120 B.C., viz., the early years of the Roman province of Asia, the text is roughly contemporary with our Magnesian series. Running to some 106 lines, the decree describes in detail the varied accomplishments of the honorand's career. The relevant passage is:

... τοῦ τε δῆμου προελομέ-  
νον νομίσματι χαλκίνῳ χρῆσθαι ἰδίῳ, χάριν τοῦ νομειτεύ-  
εσθαι μὲν τὸν τῆς πό-  
(45) λεως χαρακτῆρα, τὸ δὲ λυσιτελές τὸ περιγεινόμενον ἐκ τῆς  
τοιαύτης προσόδου  
λαμβάνειν τὸν δῆμον, καὶ προχειρισαμένον τοὺς τὴν πίστιν  
εὐσεβῶς τε καὶ  
δικαίως τηρήσοντας, Μηνᾶς αἰρεθεὶς μετὰ τοῦ συναποδειχθέν-  
τος τὴν κα-  
θήκουσαν εἰσηγέγκατο ἐπιμέλειαν, ἐξ ὧν ὁ δῆμος διὰ τὴν τῶν  
ἀνδρῶν δι-  
καιοσύνην τε καὶ φιλοτιμίαν χρῆται τῷτοι ἰδίῳ νομίσματι, ἐν τε  
ταῖς ἄλλαις ἀρ-  
(50) χαῖς καὶ λειτουργίαις . . . (ll. 43-50).

And the demos, having decided to use its own bronze coinage in order that the type of the city be recognized and the demos receive the profit which results from such income, and having elected men who would piously and justly maintain the trust placed in them, Menas, chosen along with his fellow-appointee, applied the appropriate diligence, as a result of which the demos, on account of the men's justice and zeal, uses its own coin. And in the other magistracies and liturgies . . .

Our first task will be to determine just what it is that the document says concerning the nature of Menas' activity. On this point, I believe, all previous commentators have failed to read the text correctly. In

<sup>28</sup> OGIS 339, pp. 537–44. The inscription is also accessible in C. Michel, *Recueil d'Inscriptions Grecques* (Brussels, 1900), no. 327; and in *The Collection of Ancient Greek Inscriptions in the British Museum*, vol. 4, pt. 2 (London, 1916), no. 1000.

the first real discussion of the passage, H. von Fritze focused his attention on the phrase *τὴν καθήκονσαν . . . ἐπιμέλειαν* (ll. 47f.) and argued that the word *epimeleia* could only be interpreted as a reference to “die Sorge für das Münzwesen als Kommissorium ohne Titel.” Thus the word *epimeleia*, with which von Fritze compares the use of the participle *ἐπιμεληθείς* on coins of the Imperial epoch, acquires a technical force and alone defines the specific nature of Menas’ activity.<sup>29</sup> The interpretation has been accepted, or at least not been challenged, by two recent commentators on the inscription, Louis Robert and Philippe Gauthier.<sup>30</sup>

Though unobjectionable on constitutional grounds, this reading of the text is far from assured. The word *epimeleia* is not used in an obviously technical way, and it is merely von Fritze’s inference, unsupported by any exact parallel, that it contains an allusion to Menas’ official status. There is no reason why the word should not bear its general meaning “diligence” or “care.” At best, one could accept von Fritze’s arguments only in the absence of any other indication as to the identity of the two Sestians’ constitutional position. But in fact the text does contain such an indication. Immediately following the account of Menas’ service to the mint come the words “And in the other magistracies and liturgies . . .” (ll. 49f.). These words can only imply that somewhere in the preceding text mention has been made of a liturgy. The alternative possibility, that *ἄλλαις* is used here in apposition to the substantives, is precluded by the fact that Menas’ first gymnasiorathy, an office elsewhere in the text (ll. 61f.) expressly termed an *archē*, has already been described (ll. 30–43). Since, moreover, the account of the first gymnasiorathy is immediately followed by the lines under discussion (ll. 43–49), both the order and the proximity of the passages would favor taking them respectively as the *archē* and *leiourgia* alluded to. This distribution of the two terms is further supported by the consideration that Menas’ duties in the mint could not possibly have been regarded as an *archē*: the appointment bears no title, the term of service is not

<sup>29</sup> H. von Fritze, “Sestos: die Menas-Inschrift und das Münzwesen der Stadt,” *Nomisma* 1 (1907), pp. 1–13, especially pp. 1–3.

<sup>30</sup> L. Robert, “Les Monétaires et un Décret Hellénistique de Sestos,” *RN* 1973, pp. 43–53, esp. pp. 49ff.; Gauthier (above, n. 21), pp. 178f.

limited, and nothing in the text suggests that we are dealing with a regular, ongoing activity of the mint. Finally, it will be noted that the validity of the argument is not affected by the possibility—and it is only a possibility—that either the embassies (ll. 5–6, 10–25) or the priesthood of Attalos (ll. 26–30), which account for the remainder of the preceding text, might either or both have been designated “liturgies” at Sestos. If, in sum, *ἄλλαις* refers to the preceding text, as it must, the efforts of Menas and his colleague were in all likelihood officially designated a *leitourgia*.

Unfortunately, the identification does not bring with it any clues as to the specific acts actually performed by the two Sestians. These, again, are cloaked under the illusive phrase *τὴν καθήκονσαν . . . ἐπιμέλειαν* (ll. 47f.). Robert, however, in the course of a strongly stated attack on the monetary liturgy hypothesis, examined our text and observed correctly that, whatever the services performed, no cash assessment is mentioned. Since all or most of the proponents of the hypothesis have assumed the existence of such an assessment, the fact that our one source for the participation of a private individual in the mint fails to support that assumption must weigh decisively, in Robert’s opinion, against the hypothesis.<sup>31</sup> Can our own reading of the text accommodate this objection?

It can. Given the correctness of Robert’s observation, it does not follow that Menas and his colleague were not performing a liturgy. Liturgies did not consist exclusively, as Robert appears to assume, in assessments of fixed sums, though this was true of many of the Athenian liturgies on which we have information. The word *leitourgia*, after all, means the performance of an *ergon* for the community;<sup>32</sup> the substitution of money for *erga* was presumably a later, and natural, development from an earlier institution based on services. Liturgies in the form of “works,” in any event, endured even into Classical and Hellenistic times, including at Athens.<sup>33</sup> To the suggestion that Menas’

<sup>31</sup> Robert (above, n. 30), p. 52.

<sup>32</sup> For details on the etymology, see H. Frisk, *Griechisches Etymologisches Wörterbuch* 2 (Heidelberg, 1970), p. 83, s.v. *λαός*.

<sup>33</sup> In the absence of a modern comprehensive survey of Greek liturgies, one can only cite the articles in *DarSag* 3, 1095–1098, s.v. “Leitourgia,” pp. 1095–98 (A).

activities, whatever their precise nature, comprised a liturgy there can be no real objection. Our benefactor, clearly one of the more prominent and influential members of the community, had responded to the demos' invitation with a presumably substantial and valuable contribution of his services.

Others, too, may choose not to read the text as literally as Robert, with good reason. As the text repeatedly testifies, Menas was a very wealthy individual who had on repeated occasions made large donations to his city.<sup>34</sup> Equally clear is the city's recurring instability;<sup>35</sup> in the present case, the demos is expressly credited with contemplating the profit that would be forthcoming from the production of the new bronze. On this occasion, too, there may again have arisen a need for this civic-minded citizen's generosity. Perhaps it went without saying that, in the patently onerous undertaking of a new bronze coinage, Menas and his colleague would bear some of the actual expense.<sup>36</sup> The man who, on a later occasion, was obliged to sustain the cost of the bronze statue that the state had decreed in his honor (ll. 98–100, 104) could also have supplied the bullion for a great many Sestian coins. Nothing in the text itself, least of all the vague *τὴν καθίκονσαν . . . ἐπιμέλειαν*, prohibits such a reconstruction.

Whatever the form that Menas' activities took, services or donation or both, their identification as a *leitourgia* may be taken as assured.

Martin); and in the *RE* 12, s.v. "Leitourgie," cols. 1871–79 (Oehler). Liturgies consisting in services are listed by Martin, p. 1095.

<sup>34</sup> Particular note should be taken of the statement introducing the catalogue of Menas' accomplishments in which it is stated that in his services to the state "he spared no expense" (l. 4: *οὐτε δαπάνης καὶ χρημάτων οὐδεμιᾶς φειδόμενος*). Explicit references to particular expenditures occur at ll. 5–6 (hardships on embassies), 27–30 (expenses as priest of Attalus), 42 (crown voted him by *ephebes* and *neoi*), 43 (dedications of *τὰ δῶλα*), 61–86 (second gymnasiarchy), 77 (scrapers and prizes), and 104 (bronze dedicatory statue).

<sup>35</sup> See ll. 17f. (fear of attack by neighboring Thracians and of other imminent hardships), 24 (ἐν καιροῖς ἀναγκαῖοις), 53–59 (raids from Thrace, war, crop losses, food shortages), and 103 (τὴν ὑπάρχονσαν περὶ τὰ κοινὰ στενοχωρίαν).

<sup>36</sup> In opposition to Robert, "Sestos," (above, n. 30), p. 52. The argument from silence is not conclusive. The first gymnasiarchy (ll. 30–44) involved repeated large expenditures on Menas' part (for example, construction work on the gymnasium, staging of elaborate games and sacrifices), but the text expressly cites his donations only in connection with a crown and the dedication of *τὰ δῶλα* (ll. 42f.).

The one difficulty the Sestian record poses for the monetary liturgy hypothesis, at least as formulated in the present literature, is that no Sestian coin has been found bearing the name of Menas.<sup>37</sup> Perhaps, however, the very existence of our inscription suggests an explanation: at Sestos, holders of the monetary liturgy were honored by laudatory inscriptions, while at Athens, Magnesia, and other states whose mints produced signed coins (but for which we have no comparable epigraphic evidence) the reverse signature filled this function. Be that as it may, it is the liturgy itself, not the form of its recognition, if any, that is at issue. The reverse signature represents only the most appropriate and natural of the available possibilities. Practice undoubtedly would have varied from state to state.

Another, more general, objection to the hypothesis must be acknowledged: Robert's contention that the very notion is contrary to "the spirit" of the Greek polis. No Greek city-state, in Robert's view, would have solicited funds for the production of the currency that was the very symbol of its autonomy and identity. Nor would an individual citizen, if thus called upon by his government, have required the enticement of seeing his name stamped upon the city's coins; rather he would have freely provided his assistance as an expression of his sense of civic responsibility and devotion to the well-being of the community, without regard to personal compensation.<sup>38</sup> Both points, it seems to me, are open to serious question. Liturgies permeated the life of the Hellenistic city-state and were often closely bound up with its ideals and identity—just as much as, if not more than, the suggested monetary liturgy. One need only think of the Athenian *choregia*, and of the various liturgical magistracies, priesthoods, and ambassadorial posts. No Greek state of the Hellenistic Age would have been regarded as compromising its dignity if, in the absence of funds, it was decided to relieve the burden of a new coinage through the solicitation of support from the wealthier or more capable members of the community. Concerning the individual, neither are there grounds for supposing that a

<sup>37</sup> See, for example, the catalogue of Sestian coins in the Berlin cabinet, von Fritze (above, n. 29), pp. 5–7.

<sup>38</sup> L. Robert, *Monnaies Antiques en Troade* (Paris, 1966), pp. 84, 86–88; "Sestos," (above, n. 30), pp. 43, 45, 46–47, 49, 51.

conflict was imagined to exist between good citizenship and a desire to see one's public contributions publicly recognized, regardless of the form of recognition. The age which saw the proliferation of the honorary inscription with its sometimes lavishly detailed cursus would certainly tolerate, even welcome, the commemoration of public benefactors by the display of their names in such an appropriate manner. That a state, in creating such a liturgy, might have been motivated by a desire to remain solvent and an individual, in complying, by a desire for notoriety, could not be taken as inconsistent with the polis's higher ideals.

Magnesia, like Sestos, observed liturgies, and our own coinage, not more than 30 years earlier than the Menas inscription, could have been struck under similar circumstances. Above all, the fact that all three of the special features of the Magnesian emission noted earlier would be accounted for favors the assumption of a similar procedure.

The Sestian evidence provides, in the first place, a parallel both for the paired tetradrachm emissions and for the bronze issues, mentioned earlier, that bear the double signature. In both instances, it may be conjectured, the two Magnesians served a function comparable to that of Menas and his colleague, although one would hesitate to assume in the case of the silver that private individuals were asked to provide bullion in any appreciable quantity. The reason or reasons, however, for collegiality remain unknown. Perhaps nothing more was intended than to divide a burden too great to be borne by a single individual. Alternatively, the two might have been expected to check one another's authority, though such a purpose would be difficult to reconcile with the presence of brothers, Euphemos and Pausanias, in office simultaneously.

In the second place, the Sestian emission was an extraordinary event, which squares well with the sudden and short-lived appearance of the autonomous tetradrachm at Magnesia and other Anatolian mints. Liturgies were frequently constituted on an ad hoc basis and so provide a more suitable administrative basis than a permanent magistracy, within or outside the mint. Both the Hellenistic bronze and silver emissions and, later, even Moschion's "small bronze" might well have been authorized under circumstances similar to those described in the Sestian inscription.

Finally, the signers of our silver were, like Menas, demonstrably men of political prominence. In particular, the family of Pausanias Euphe-

mou, which was eventually to boast a member of an important legal commission, in all probability a *neokoros* of the state cult, and possibly an eponymous *stephanophoros*, dominated the earlier issues of the silver. It cannot be determined, however, whether or not they and their colleagues were also, like their Sestian counterpart, men of wealth. Even so, the record of public service comports well with the suggestion of a mint liturgy. It was to such civic-minded (as well as prosperous) men that a state in need of services or funds turned in the later Hellenistic Age.

Until better evidence becomes available, therefore, the hypothesis of a monetary liturgy, supported by a nearly contemporary document from another Asian state, offers the most convincing explanation for the present numismatic record. Our eight signatures commemorate, possibly in lieu of an honorary inscription, the fulfillment of an extraordinary Magnesian liturgy.

#### HISTORICAL CONTEXT

The appearance of the new silver at Magnesia had a twofold significance. It marked, in the first place, an apparent resumption of large-scale minting activity following a hiatus of some three decades. After the battle of Magnesia ad Sipylum, according to an observation of Boehringer's in his recent survey of Middle Hellenistic coinages, the production by the Asia Minor mints of the spread-flan Alexanders in general had stood at a relatively low level.<sup>39</sup> By contrast, the new silver series were, if the Magnesian record is any indication, of considerable volume. To refer only to the relatively well-attested six paired issues, the total of 34 obverse dies (which, as we have seen, probably falls somewhat short of the number actually used) gives an average of about 11 dies per (paired) emission. This figure is comparable to the average number of obverses used each year during the Middle Period of the

<sup>39</sup> Boehringer, p. 48. A similar view is taken by A. R. Bellinger, *Essays on the Coinage of Alexander the Great*, ANSNS 11 (New York 1963), p. 92. According to Boehringer's tabulation, p. 194, the Magnesian spread-flan Alexander occurs in four hoards after the turn of the century: Mektepini 1956, Latakia 1759, Babylon 1900, and Haifa 1906.

Athenian New Style, on Thompson's calculations about 13.<sup>40</sup> Though the intervals between the Magnesian emissions remain unknown—conceivably they were as great as four or five years—it may at least be inferred that we are dealing with a substantial production of coinage.

Secondly, and no less importantly, the introduction of the new die designs represented a significant stylistic departure from the spread-flan "civic" Alexanders and Lysimachi previously struck at Magnesia and at other of the autonomous mints. The royal types were abandoned, and although the identity of the issuing authority had often earlier been indicated by a significant symbol (in the case of Magnesia, by the reverse maeander), it was now stated far more conspicuously on both the obverse and reverse types. Thus Magnesia's obverses bear the bust of Artemis Leukophryene, the patron goddess of the state; the reverses Apollo, also revered at Magnesia, with the ethnic to one side spelled out in full in large, clear letters, and with the maeander beneath the figure's feet.<sup>41</sup> Not only the substance, but also the form of the new coinage as well, stands in need of explanation.

Any attempt to establish the historical circumstances of the Magnesian silver is initially frustrated by the absence of any specifically Magnesian testimony. A copious epigraphic record tells us nothing. Nor does the supposition of a monetary liturgy, which, as far as can be determined, was limited in its function to the (partial) funding of the coinage, help us to understand the policy that lay behind it. In fact, our only solid clues are provided by the peculiarities of the Magnesian hoard evidence discussed above. The Magnesian tetradrachm occurs in only seven hoards, all confined to the territory of contemporary Seleucid Syria, and nearly all dated by Seleucid issues to within the narrow chronological range ca. 150–138 B.C. Significantly, also, the same pattern of distribution and chronology obtains for the hoard records of six other Asia Minor mints: Aigai, Kyme, and Myrina (Aiolis), and Herakleia, Lebedos,

<sup>40</sup> Thompson, *Athens*, pp. 711–13. The Middle Period data are cited here because the high survival rate of specimens per known obverse die shows the record to be relatively complete. The coinages of both the Early and Late Periods were, however, as Thompson shows, far more extensive.

<sup>41</sup> For Artemis and Apollo at Magnesia see, for example, D. Magie, *Roman Rule in Asia Minor* (Princeton, 1950), pp. 78–79, 894–96.

and Smyrna (Ionia).<sup>42</sup> With only very few exceptions these tetradrachms occur nowhere else in hoards, not even, as has long been realized, in the regions in which they were minted.<sup>43</sup> It is clear, therefore, that the Magnesian silver, far from being an isolated phenomenon, can be understood only in the context of larger, external forces.

In obvious need of some explanation, our data received the attention of Rostovtzeff in an influential article that appeared in 1939.<sup>44</sup> The hypothesis was offered that an entente cordiale obtained between the Attalids, within whose sphere of influence the mints in question were situated, and the Seleucids, within whose territory the hoards were deposited. Pergamon, by the Treaty of Apameia, came into possession of the silver mines that formerly had supplied the Seleucid mints, leading to a shortage of the metal in Syria. Meanwhile the Seleucids supplanted the Ptolemies in the Levant and so gained control of the caravan routes from the East. If this new trade was to be exploited, a large volume of silver currency would be required. In a mutually beneficial arrangement, Pergamon somehow prevailed upon the autonomous cities to strike the silver, which then traveled south, where its value was greater than at home, to be exchanged for the eastern imports.<sup>45</sup>

Though accounting for the record, the hypothesis has more recently come in for critical examination. The Syrian silver shortage now appears untenable, and in its absence there hardly remain sufficient grounds for supposing an unattested *entente*.<sup>46</sup> How, also, given the documented autonomy of the minting states, could one believe that Pergamon had managed to control their monetary policy to the extent

<sup>42</sup> Seyrig, *Trésors*, 18–25, 28 (?). These include, in addition to the list on pp. 74–75, the Teffaha 1954 (Seyrig, 21, *IGCH* 1557) and Baarin 1955 (Seyrig 28, *IGCH* 1567).

<sup>43</sup> Particularly valuable on this point are the discussions of L. Robert, "Monnaies d'Ionie," *Hellenica* 7 (1949), p. 86 with n. 2; and of A. R. Bellinger, (above, n. 23), pp. 19–24.

<sup>44</sup> M. Rostovtzeff, "Some Remarks on the Monetary and Commercial Policy of the Seleucids and Attalids," *Anatolian Studies Presented to W. H. Buckler* (Manchester, 1939), pp. 277–98. See also *SEH* 2, pp. 654–59, 1293.

<sup>45</sup> Rostovtzeff, "Monetary and Commercial Policy" (above, n. 44), especially pp. 295–97. Modifications of the theory are suggested by Bellinger (above, n. 23), pp. 22–24.

<sup>46</sup> Boehringer, *Chronologie*, pp. 49f. with n. 15 for bibliography.

that Rostovtzeff postulated? Would it not have been more natural in any event, as Rostovtzeff himself wondered, for Pergamon to conduct trade with her own royal currency? When one considers further that the theory offers no motive for the inauguration of the new types, it is evident that the hoard record by itself, though without question indicating trade contacts of some kind with Syria,<sup>47</sup> is unlikely to provide more than part of the answer.

Alternatively, the problem can be viewed from the point of view of the mints, but to date the results have been no more satisfactory. In a lucid demonstration, Seyrig showed that of the 24 Asian mints known to have struck either silver tetradrachms or gold in their own names<sup>18</sup>, including Magnesia, are expressly stated by our sources to have been guaranteed their autonomy at Apameia in 188 B.C., while for the six others neither autonomy nor subjection to Pergamon or Rhodes is clearly indicated. There can hardly be any other inference than that the striking of large denominations in the name of the issuing authority reflected the attainment of autonomy under the terms of the Treaty.<sup>49</sup> Yet the inference, however valid, does not take us very far toward the explanation that we want. No Asian autonomous tetradrachm can be dated with any certainty to much before ca. 169 B.C. (see below pp. 95–96), and the Magnesian series, as we have seen, does not begin until significantly later. Indeed, a number of our mints continued after 188 B.C. to strike the spread-flan "civic" Alexanders.<sup>50</sup> In the Treaty of Apameia, in other words, we have at best necessary, but not sufficient, conditions for the production of the autonomous silver. What, again, were the economic forces that brought about the resumption of large-scale minting? Under what precise circumstances were the new types introduced when they were?

With the publication of Boehringer's *Chronologie* in 1972 a hypothesis was offered that at least acknowledged the importance of these questions. Seeking a comprehensive explanation embracing not only

<sup>47</sup> The precise nature of these contacts remains obscure. For some of the complicating factors, see, for example, Seyrig, *Trésors*, pp. 85–86.

<sup>48</sup> H. Seyrig, "Monnaies hellénistiques," *RN* 1963, pp. 19–22.

<sup>49</sup> For the evidence see Boehringer's list, *Chronologie*, pp. 190–199, of Alexanders of the third and second centuries B.C. found in hoards. Magnesia's hoard record was cited above, n. 39.

the Asian series but also the *stephanephori* of other Aegean mints, Boehringer refers all the emissions to a single historical event, the opening of the free port of Delos in 166 B.C., which, it is supposed, led quickly to the formation of an Aegean "Münzunion." The production of new silver currencies was undertaken by the member states in order to carry on the increased volume of trade. For the new die designs, too, at least a partial accounting is provided by Boehringer's suggestion that membership in the Union was signified by the use of the reverse wreath. The suggestion is supported by references in contemporary Delian accounts to *tetrachma stephanephora*, *drachmai stephanephori*, and so on, which Boehringer regards as official technical terms designating not only the wreathed Athenian New Style as always supposed but also all other wreathed spread-flan strikings, including Magnesia's. The theory thus excludes from consideration those spread-flan tetradrachms, some of them Asian, that, though similar to the other autonomous types in all other respects, lack the reverse wreath.<sup>50</sup>

While the evaluation of so far-reaching a hypothesis obviously lies far beyond the scope of the present paper, one negative observation may be made in respect to its acceptability as an explanation for the Asian emissions. That is, can the limitation of the inquiry to the *wreathed* strikings be justified? Two objections, the one particular, the other more general, come to mind. The case for "wreath-bearer" as a technical term for all the wreathed emissions is, in the first place, weakened somewhat by the strong possibility that the wreathed tetradrachms of Eretria were designated *τέτραχμα καινὰ ταυροφόρα* in the Delian accounts, i.e. without reference to the wreath.<sup>51</sup> Second, even if this point were conceded, it is still a long leap from what may have been nothing more than

<sup>50</sup> Boehringer, *Chronologie*, pp. 14–19 (distribution and chronology), 31–38 (scope of the term "wreath-bearer"), 38–39 (creation of the free port).

<sup>51</sup> For the identification of the *taurophora* as Eretrian see L. Robert, *Études de Numismatique Grecque* (Paris, 1951), pp. 156–59. Boehringer, *Chronologie*, pp. 31–38, identifies the "bull-bearers" as the unwreathed tetradrachms of the First Macedonian Republic. This view entails a difficulty, acknowledged by Boehringer, in that the Macedonian tetradrachm cannot have antedated 167 B.C., which means that the thousands of drachms mentioned in the Delian accounts must belong to the first year of the mint's operation. The unlikelihood of such a circumstance is clearly brought out by M. Thompson, "Athens Again," NC 1962, p. 326.

an accounting term to the “Münzunion” and “gesetzliches Zahlungsmittel” that Boehringer envisages. Doubts on this point are reinforced by the apparent absence of any substantial basis for the distinction between the member states, whose coins were wreathed, and non-member states, whose coins were not wreathed. A survey of the mints treated by Boehringer himself reveals no consistently valid territorial, chronological, or other correlation that might justify such a division of the evidence.<sup>52</sup> On what grounds were Kos and Lampsakos, unlike their neighbors Herakleia and Abydos, excluded from the Union? Did they not trade at Delos? Or, if they did, not with members of the Union? Why, also, if the several members are assumed to be acting in concert, did some mints begin striking their wreathed silver almost immediately after the port opened, but certain other member states, among them Magnesia, not until ten or more years later? Equally puzzling is the implication that states whose silver was unwreathed, though not members, nonetheless proceeded to create new coin types comparable to those of the member states except for the absence of the wreath. Besides, if these states were not members of the Union and so, presumably, not participating in the new trade, why did they undertake their new silver coinages in the first place? To these economic considerations may be added the final, and perhaps decisive, objection that the thesis does not really offer a satisfactory set of circumstances for the introduction of the autonomous types.

Boehringer's reconstruction could be spared all but the last-mentioned objection by the simple inclusion of the unwreathed emissions were it not for the fact that among them is at least one for which a beginning date earlier than 166 B.C. appears assured. The tetradrachm of the Confederation of Athena Ilias occurs in the Latakia hoard of 1759, burial date ca. 169 B.C. (Seyrig, *IGCH* 1544). Identified by Bellinger on strong stylistic grounds as representing the earliest extant issue of the series, the sole Latakia specimen shows no appreciable wear, which should place the beginning of the series not long before the

<sup>52</sup> The most complete listing of the mints will be found in Boehringer, *Chronologie*, pp. 14–17. A map, Beilage 5, graphically illustrates the distribution of the wreathed and unwreathed types.

closing of the deposit, probably sometime in the 170s.<sup>53</sup> Boehringer himself, following an early paper of R. Mowat, suggests a burial date for the hoard "gegen 164,"<sup>54</sup> but even if right, this leaves very little time for the port to open, the Confederation to plan and strike the silver, and the tetradrachm to find its way to Syria and be buried. Potentially troublesome also is the dated unwreathed tetradrachm of Alexandreia Troas, which some refer to the era of Lysimachos' foundation, giving the date 164 B.C., but others to the Seleucid era of 312 B.C., which yields the quite unacceptable (for the theory) date 176 B.C.<sup>55</sup> Still more serious is the possibility, suggested by Thompson, that the *wreathed* tetradrachm of Kyzikos began no later than ca. 180 B.C.<sup>56</sup> Although in both these latter cases the evidence for a lower chronology, cited by Boehringer, is sufficiently strong as to preclude certainty one way or the other,<sup>57</sup> the early hoard evidence for the Ilian tetradrachm remains and must be dealt with.

If the unwreathed series cannot after all be legitimately separated from the wreathed, then our discussion of the setting of the Magnesian silver must take into account the virtual certainty that at least one Asian mint commenced the striking of its autonomous silver prior to the opening of the free port. This is not to deny, of course, that the redirection and/or intensification of commerce suggested by Boehringer, or, for that matter, by Rostovtzeff, were significant; indeed, in the case of Magnesia with a beginning date ca. 155 B.C., either theory by itself would provide an entirely acceptable economic motive. The difficulty is that neither hypothesis, nor any other with which I am familiar, succeeds in identifying the original impulse behind the inception of the autonomous coinages. Magnesia's introduction of the new types, in other words, can hardly be separated from the somewhat earlier ap-

<sup>53</sup> See A. R. Bellinger (above, n. 23), pp. 11–24; and *Troy: the Coins* (Princeton, 1961), pp. 22–27, nos. T36–T58. No specific suggestion as to the date of the specimen or of the series is offered in either publication beyond an indication of the outside limits 188–133 B.C.

<sup>54</sup> Boehringer, *Chronologie*, pp. 15, 70.

<sup>55</sup> Bellinger, *Troy* (above, n. 53), pp. 93–94 with n. 18.

<sup>56</sup> Thompson (above, n. 51), p. 317, n. 3.

<sup>57</sup> On the tetradrachm of Alexandreia see Boehringer, *Chronologie*, p. 40 with n. 1; on the Kyzikene tetradrachm, p. 18.

pearance of a similar silver series in the Troad. The possibility of a connection here is reinforced by the close proximity to Iliom of Aigai, Kyme, and Myrina, whose tetradrachms, as noted above, are found in hoards in close association with the Magnesian.

Within the first three decades following the Treaty of Apameia occurs a major development in the economic history of Asia Minor that has never, to my knowledge, been considered in connection with the new silver of the autonomous cities. This is the introduction by the kingdom of Pergamon of a new royal coinage, the cistophorus. Boehringer for one could not have considered the creation of the new Attalid currency in this light for the simple reason that his chronology for the cistophorus is at least a decade too high, the first issue being placed in 190 B.C.<sup>58</sup> Now, however, with the recent appearance of Kleiner and Noe's *The Early Cistophoric Coinage*, the possible limits have been set at ca. 180 to ca. 160 B.C.<sup>59</sup> I suggest that it was in reaction to the introduction of this currency that some neighboring mint, very possibly the Confederation of Athena Ilias, inaugurated the new coinage that was eventually to be adopted by free cities throughout Asia Minor. Besides the acceptable chronological limits, two features of the cistophorus make the hypothesis particularly attractive.

The distinguishing feature of the cistophorus, aside from its departure from the Attic weight standard, was the abandonment of the regnal types, on the Kleiner-Noe chronology group VII of the Philetairos series, in favor of the cista mystica and the bow-case with writhing snakes. Yet, at the same time, despite the absence of a royal portrait, the new coinage was every bit as much "the King's money," as Kleiner and Noe have shown.<sup>60</sup> The result was that, at the very time the subject cities of Pergamon were beginning to use a new coinage that bore on its face no obvious sign of royal domination, the autonomous states, including Magnesia, paradoxically continued to use the old "civic" Alexanders and Lysimachi. Under these circumstances, the free cities

<sup>58</sup> Boehringer, *Chronologie*, pp. 11–14, 40–50.

<sup>59</sup> F. S. Kleiner and S. P. Noe, *The Early Cistophoric Coinage*, ANSNS 14 (1977), pp. 10–18.

<sup>60</sup> Kleiner and Noe (above, n. 59), pp. 121–25.

might easily have been provoked to introduce new types whereby their own, genuine autonomy might be advertized more clearly.

The cistophorus also brought with it a decisive economic impact. Although based on a weight standard that would have facilitated exchange with both Attic weight coinages and the Roman denarius, the cistophorus, as well known, fails to occur in hoards outside the boundaries of the Attalid kingdom; and, conversely, foreign currencies are conspicuously absent from cistophoric hoards. Kleiner and Noe could find no other explanation for this extraordinary state of affairs than that the cistophorus was overvalued relative to other silver currencies.<sup>61</sup> If this is the correct explanation, the ramifications for the neighboring autonomous states must have been swift and far-reaching. Trade between the king's cities and the free cities, in particular, would have been seriously disrupted. If foreign currencies were undervalued within Pergamene territory, a Magnesian say, presumably could not have completed a business transaction in an Attalid city without first compensating the king for the difference in the value between the royal and Magnesian currencies. It could not have been long before those free states that had commercial contacts with Pergamon would begin to look elsewhere for more attractive markets. Such a reorientation would in all probability have required an increased production of currency.

The combination of these two economic and political factors would account both for the resumption of striking of large silver by the free cities and for the particular form that those strikings took. No other hypothesis with which I am familiar is equally satisfactory in both these respects. The new coinages at once proclaimed the autonomy of the issuing authority and provided the means for carrying on trade in new markets. These were to include not only Delos a few years later<sup>62</sup>

<sup>61</sup> Kleiner and Noe (above, n. 59), pp. 124–25.

<sup>62</sup> This must remain, for the time being, an assumption. As Seyrig observes (*Trésors*, p. 86) the Asia Minor tetradrachms are not found in Delian hoards. Nor are they expressly recorded in the Delian accounts mentioned above in connection with Boehringer's hypothesis, though the possibility remains that the Delian terms *tetrachma stephanephora*, *drachmai stephanephoroi*, etc., while not necessarily indicative of the existence of a monetary union, do refer to contemporary emissions other than the Athenian. That the Eretrian wreathed tetradrachms, as noted, were probably not labeled "wreath-bearers" does not, of course, imply that one and only one coinage was so designated.

but also, as Rostovtzeff emphasized, Syria, with which commercial contacts had been established some time previously.

An advantage of our hypothesis is that it does not assume, as Boehringer's does, that the free states acted in concert; otherwise it would be difficult to understand why, again, certain of them, including Magnesia, delayed the production of the new silver by possibly as long as two decades. Individual states, instead, are to be imagined as proceeding in accordance with their own particular economic and political interests. Proximity to, and so greater dependence on, Pergamon may have been one factor, which would help explain the apparent concentration of the earliest dated emissions in and near the Troad, though it will be remembered that Aigai, Kyme, and Myrina's tetradrachms appear at about the same time as Magnesia's. More or less plentiful supplies of existing currency, to cite another, would also have influenced the timing of the renewal of minting activity. Our point is that the cistophorus might well have provided the immediate impetus for the introduction of the new silver in the Troad; once established, the autonomous style will have been available for imitation by the other free states, whose own circumstances might have differed markedly in degree and kind. The theory provides an account for the beginnings of a new phase of minting activity; it does not profess to offer an exhaustive explanation for each and every Asian autonomous emission.

Finally, attention must be drawn once again to the chronological assumptions on which the validity of the theory depends. Our starting point is the observation that no Asian autonomous tetradrachm can be dated with certainty to much before the burial date of the Latakia hoard, ca. 169 B.C., and that such a date would fall within the limits established for the introduction of the cistophorus. Yet Alexandreia might have begun as early as 176 B.C., and Kyzikos, or some other mint, even earlier. No less serious a complicating factor is the very real possibility that the cistophorus was introduced too late within our limits to antedate even the Ilian tetradrachm. Kleiner and Noe, in fact, conjecture a precise beginning date of 166 B.C., which, if correct, would present the same chronological difficulty that renders Boehringer's thesis unacceptable.<sup>63</sup> Yet the demonstration of the possibility of one

<sup>63</sup> Kleiner and Noe (*above*, n. 59), pp. 16–18.

beginning date does not necessarily mean that another may not later prove more attractive. Nothing in Kleiner and Noe's discussion precludes a date in the middle or late 170s B.C. Nonetheless, this uncertainty is no less real, and the present thesis should be considered for the time being no more than a conjecture. But even if further study should rule out conclusively the priority of the Pergamene coinage, the hypothesis would lose none of its value as providing a contributing factor, alongside the largely economic stimuli discussed above, for the somewhat later series, including the Magnesian. Until that time, the suggestion that the Asian autonomous silver initially arose out of a reaction to the introduction of the Pergamene cistophorus will, I hope, be deemed worthy of serious consideration.

## CATALOGUE

For the interpretation of the catalogue see above, pp. 65–73. As explained, the order in which the obverse dies of all but the first two issues are numbered is, except where reverse linkage is attested, mostly arbitrary. Where possible, the reverse dies used with a given obverse have been ordered according to obverse die deterioration. In virtually all instances die orientation, where recorded, is 12 o'clock. For particulars on the hoards cited in the catalogue see above, pp. 74–75.

The abbreviations and short titles of numismatic collections and sales publications are mainly those used by Margaret Thompson, *Athens*, pp. 11–26. MMAG, however, refers to Münzen und Medaillen AG, Basel. Specimens marked by an asterisk are illustrated in the plates.

### PAUSANIAS EUPHEMOU-APOLLODOROS KALLIKRATOU

#### *Pausanias Euphemou*

“Plain” style obverse, ethnic-left reverse

1.    a \*Berlin (Fox), 16.83 g ↑.
- b \*ANS, 16.59 g ↑ = Feuardent, 11 June 1913 (Burel), 285,  
          16.59; Winterthur cast (Lambros), 16.65 g
  
2.    a \*ANS, SNGBerry 1069, 16.72 g ↑ = Seyrig, *Trésors* 24.40  
          (Ras Baalbek hd.); Paris 1423 (*Waddington* 1726), 16.20 g ↑

- b Kirikhan hd. (Bank Leu); \*Kirikhan hd. (MMAG), 16.99 g
- c \*Kirikhan hd. (MMAG), 17.01 g (obverse recut).
- 3. a \*Kirikhan hd. (MMAG), 16.79 g
- 4. a Bourgey, 11 Sept. 1976, 85, 16.91 g  
b \*Kirikhan hd. (Bank Leu), 16.77 g  
“Fine” style obverse, ethnic-left reverse
- 5. a \*Kastner 4, 27–28 Nov. 1973, 121, 16.76 g ↑; Saarbrücken  
(private coll.)
- 6. a \*Seyrig, *Trésors* 18.66 (Akkar hd.), 16.59 g  
“Fine” style obverse, ethnic-right reverse
- 7. a \*Kress 158, 8–9 Nov. 1973, 415.
- 8. a \*Kastner 4, 27–28 Nov. 1973, 120, 16.80 g ↑

*Apollodoros Kallikratou*

- “Plain” style obverse, ethnic-left reverse
- 1. a Paris 1421, 16.18 g ↑; \*Kirikhan hd. (Bank Leu), 16.91 g
- 2. a \*Numismatic Fine Arts 4, 24–25 March 1977, 290, 16.78 g  
= Kirikhan hd. (Bank Leu)  
b Glendining, 31 Jan. 1951 (Cunningham), 215, 251 gr. =  
Naville 1, 4 Apr. 1921 (Pozzi), 2462, 16.24 g; Hesperia  
ArtFPL 16, 1961, 44 = Coin Galleries FPL 4, 1953, D60;  
\*Kirikhan hd. (Bank Leu), 16.79 g
- 3. a \*Glasgow, *Hunter*, vol. 2, p. 347, no. 8, 250.7 gr., (pl. 51.4).  
b \*Kirikhan hd. (Bank Leu), 16.85 g; Kirikhan hd. (Bank Leu),  
16.65 g
- 4. a Seyrig, *Trésors* 19.20 (Ghonsle hd.), 16.56 g  
b \*Kirikhan hd. (MMAG), 16.81 g  
c Kirikhan hd. (MMAG), 16.87 g  
d Kirikhan hd. (Bank Leu), 16.96 g  
“Fine” style obverse, ethnic-left reverse
- 5. a Naville 12, 18 Oct. 1926 (Bissen et al.), 1798, 15.83 g =  
Egger 39, 15 Jan. 1912, Vienna dupl. 313, 15.81 g; Kirik-  
han hd. (Bank Leu), 16.78 g; \*Kirikhan hd. (MMAG),  
16.59 g  
b \*Superior Stamp and Coin, 17–23 June 1974, 257.

## EUPHEMOS PAUSANIOU-PAUSANIAS PAUSANIOU

*Euphemos Pausaniou*

- “Fine” style obverse, ethnic-right reverse
- 8.     a Paris 1419, 16.58 g ↑
  - b Geneva (private coll.; Kirikhan hd.); Paris (private coll.; Kirikhan hd.).
  - c \*Kirikhan hd. (Bank Leu) 16.86 g
  - d Bank Leu 7, 9 May 1973, 226, 16.75 g
  - e Geneva (private coll.; Kirikhan hd.)
  - 9.     a Kirikhan hd. (Bank Leu), 16.76 g; Kirikhan hd. (MMAG), 16.94 g
  - b Vinchon, 17–18 Dec. 1973, 30; Superior Stamp and Coin, 17–23 June 1974, 256; Bourgey, 24–25 June 1975, 22, 16.68 g; Geneva (private coll.; Kirikhan hd.); Geneva (private coll.; Kirikhan hd.); Kirikhan hd. (MMAG), 16.94 g
  - c Gans, 9 May 1954, 530 (pl. 7).
  - d \*Vinchon, 20–22 May 1959, 546, 15.90 g. (pl. 18) = Bourgey, 5 Dec. 1932 (G), 231 = Sotheby, 23 May 1894 (Carfrae)
  - 10.    a Geneva (private coll.; Kirikhan hd.); \*Kirikhan hd. (Bank Leu), 16.39 g
  - b Paris 1422 (*Waddington* 1725), 16.48 g ↑
  - c Kirikhan hd. (Bank Leu).
  - d Geneva (private coll.; Kirikhan hd.); Saarbrücken (private coll.); Kirikhan hd. (Bank Leu), 16.88 g
  - e Vienna 17.392, 16.20 g ↑; Paris (private coll.; Kirikhan hd.); Kirikhan hd. (Bank Leu).
  - f Hess, 28 Apr. 1936, 693, 14.9 g
  - 12.    a \*Kirikhan hd. (MMAG).
  - b Berlin (Fox), 16.485 g ↑
  - c H. M. F. Schulman, 20–21 May 1966, 723; Winterthur cast; Kirikhan hd. (Bank Leu), 16.71 g
  - 13.    a Geneva (private coll.; Kirikhan hd.); Kirikhan hd. (Bank Leu).
  - b Kirikhan hd. (Bank Leu).
  - c MMAG FPL 360, Sept. 1974, 8, 16.65 g; \*Kirikhan hd. (MMAG), 17.04 g

14. a Paris (Valton), 16.62 g ↑
16. a MMAG FPL 372, Oct. 1975, 8, 16.90 g (Kirikhan hd.).  
b Harmer-Rooke, 19 June 1973, 184C, 16.76 g
17. a Hirsch 20, 13 Nov. 1907 (Hoskier), 396, 16.47 g; Hirsch 21, 16 Nov. 1908 (Weber), 2870, 16.31 g  
b J. Schulman, 19 Dec. 1910, 254; Oxford, Ashmolean, 15.74 g↑ = Glendining, 18–20 Apr. 1955, 486; Kirikhan hd. (MMAG), 16.76 g  
c \*Geneva (private coll.; Kirikhan hd.)
18. a MMAG FPL 292, Sept. 1968, 7, 15.98 g  
b Kirikhan hd. (Bank Leu).
19. a Seyrig, *Trésors* 20.36 (Haifa hd.) = Dupriez 90, 12 Dec. 1906, 33.  
b ANS (Newell), 15.52 g ↑ = Egger 39, 15 Jan. 1912, Vienna dupl. 314, 15.50 g; Kirikhan hd. (Bank Leu), 16.79 g
20. a ANS, 16.46 g ↑ = Naville 16, 3 July 1933 (St. Marceaux et al.), 1395, 16.46 g = Feuardent, 9 May 1910 (Durufle), 540.  
b Hess 208, 14 Dec. 1931, 625, 16.55 g  
c Cambridge, *SNGLewis* 930, 16.48 g ↑ = Sotheby, 26 May 1880 (Lake Price), 288.
21. a Kirikhan hd. (Bank Leu).  
b Kirikhan hd. (Bank Leu), 16.79 g  
c Geneva (private coll.; Kirikhan hd.).
23. a ANS, *SNGBerry* 1068, 16.36 g ↑
24. a Cambridge, *SNGLewis* 931, 16.18 g ↑ = Hoffmann, 15 Jan. 1882 (Bompois), 1511; Winterthur cast (Hoffmann), 16.25 g; Kirikhan hd. (Bank Leu), 16.77 g = Bank Leu 13, 29–30 Apr. 1975, 235, 16.74 g ↑  
b Geneva (private coll.; Kirikhan hd.).
25. a Weber, vol. 3, pt. 1, 6003, 15.95 g = E. S. G. Robinson, *Catalogue of Ancient Greek Coins Collected by Godfrey Locker Lampson* (London, 1923), 304, 15.92 g; Kirikhan hd. (Bank Leu), 16.59 g  
b Schlesinger 13, 4 Feb. 1935 (Hermitage 2), 1270, 16.5 g; Oxford, Ashmolean, 16.30 g ↑

- c *BMC Ionia* p. 162, no. 36, 254 gr. (pl. 18, 9); Kirikhan hd. (Bank Leu); Kirikhan hd. (MMAG), 16.85 g
- d Münzzentrum Köln 24, 12 May 1976, 151, 16.95 g = R. Myers 13, 9 Dec. 1976, 174, 16.92 g

*Pausanias Pausaniou*

- “Fine” style obverse, ethnic-right reverse
- 8.    a Seyrig, *Trésors* 24.42 (Ras Baalbek hd.), 16.67 g
  - b \*MMAG FPL 390, June 1977, 5, 16.85 g
  - c MMAG 41, 18–19 June 1970, 200, 16.60 g = MMAG, 3–4 Dec. 1965 (Niggeler), 384, 16.60 g ↑ = Jameson 1504, 16.61 g = Sotheby, 23 March 1896 (Montagu), 571, 16.59 g
  - d Kress 158, 8–9 Nov. 1973, no. 414; Berlin (Imhoof-Blumer), 16.055 g ↑
  - 10.   -a \*Kastner 6, 26–27 Nov. 1974, 128, 16.74 g ↑
  - b Kirikhan hd. (Bank Leu).
  - c Malter and Co. 1, 9–11 Nov. 1973, 142, 16.94 g = Kirikhan hd. (Bank Leu).
  - d Coins and Antiquities FPL 2, 1974, G680, 16.74 g; Geneva (private coll.; Kirikhan hd.); Geneva (private coll.; Kirikhan hd.); Kirikhan hd. (Bank Leu) 16.76 g
  - e Kirikhan hd. (Bank Leu).
  - 11.   -a Netherlands Royal Coin Cabinet 5785, 15.63 g ↑; Kirikhan hd. (Bank Leu) 16.91 g
  - 12.   -a Kirikhan hd. (Bank Leu)
  - b Naville 1, 4 Apr. 1921, (Pozzi), 2460, 15.45 g; \*Kastner 4, 27–28 Nov. 1973, 122, 16.75 g
  - 13.   -a Sotheby, 3 Feb. 1909 (Benson), 684, 16.71 g = Sotheby, 7 Dec. 1896 (Bunbury 2), 186, 16.72 g; Glendining, 21 Feb. 1961 (Lockett), 2308, 16.11 g = SNG Lockett 2830 (Newall), 16.11 g ↑; \*Stockholm 29823 (Kirikhan hd.) = Kirikhan hd. (Bank Leu)
  - b Sotheby, 24 Apr. 1907 (Delbeke), 192, 16.20 g = Sotheby, 5 June 1905 (Smith), 249.
  - c Sotheby, 15 May 1974, 48.
  - 14.   -a Kirikhan hd. (Bank Leu), 16.79 g

15.    b Feuardent, 12–17 Feb. 1919 (Collignon), 337 = Sotheby, 28 May 1900 (Late Collector), 357, 16.59 g; Vinchon, 29 Apr. 1974, 108, 16.23 g  
       a Saarbrücken (private coll.).
16.    -a MMAG 52, 19–20 June 1975, 184, 16.81 g; Brussels (du Chastel 1899), 16.21 g ↑
17.    -a Graf Klenau, 27 Oct. 1973, 2236, 16.66 g; Geneva (private coll.; Kirikhan hd.); \*Joseph Sternberg coll. (Kirikhan hd.), 16.70 g  
       b Kirikhan hd. (Bank Leu), 16.93 g
18.    a Seyrig, *Trésors* 19.21 (Ghonslé hd.) = R. Myers, 11–12 May 1972, 126 = Santamaria, 7 Oct. 1959, 60, 16.63 g
20.    a J. Schulman, 26 Nov. 1913 (van Belle), 2569, 1595 g = J. Schulman, 27 Nov. 1911, 738; Geneva (private coll.; Kirikhan hd.).  
       b Kirikhan hd. (MMAG), 16.80 g  
       c Geneva (private coll.; Kirikhan hd.); Kirikhan hd. (Bank Leu), 16.88 g
21.    a Copenhagen, SNGCop. 844, 15.94 g ↑  
       b Berlin 218/1872, 16.37 g ↑
22.    a SNGvAulock 7922, 16.78 g; Kirikhan hd. (Bank Leu), 16.84 g; Kirikhan hd. (MMAG), 16.96 g

## HEROGNETOS ZOPYRIONOS-ERASIPPOS ARISTEOU

*Herognetos Zopyrionos*

“Fine” style obverse, ethnic-right reverse

27.    a Glendining, 21 Feb. 1961 (Lockett), 2307, 16.73 g = SNG Lockett no. 2829, 16.73 g ↑ = Naville 1, 4 Apr. 1921 (Pozzi), 2463, 16.73 g = Sotheby, 5 June 1905 (Smith), 250, 16.73 g; Bourgey, 11 Sept. 1976, 86, 16.61 g; ANS cast, in trade 1974 (Kirikhan hd.), 16.82 g; Geneva (private coll.; Kirikhan hd.); \*Winterthur cast (Imhoof-Blumer), 16.71 g ↑; Munich (Kirikhan hd.); Kirikhan hd. (Bank Leu); Kirikhan hd. (Bank Leu), 16.63 g; Kirikhan hd. (MMAG), 16.91 g  
       b Paris 1420, 16.50 g ↑; Paris (private coll.; Kirikhan hd.); Kirikhan hd. (Bank Leu), 16.95 g

28.      c Munich (Kirikhan hd.); Kirikhan hd. (Bank Leu).  
       a Naville 7, 23 June 1924 (Bement 2), 1460, 15.92 g = Hirsch 30, 11 May 1911 (Barron), 570, 15.90 g; R. Myers 12, 4 Dec. 1975, 192, 16.67 g  
       b Joseph Sternberg coll. (Kirikhan hd.), 16.65 g ↑  
 29.      a Superior Stamp and Coin, 17–23 June 1974, 255; Kirikhan hd. (Bank Leu), 16.93 g; Kirikhan hd. (Bank Leu), 16.93 g  
       b *BMC Ionia* p. 162, no. 38 (pl. 18, 11), 249 gr; *Münzschatze* 6 Apr. 1974, 78, 16.84 g  
       c Paris (Delepiere) 2642, 16.10 g = Bourgey, 5 Dec. 1932 (Coll. G.), 230 = Egger 46, 11 May 1914, 954, 16.08 g; Geneva (private coll.; Kirikhan hd.).  
       d Geneva (private coll.; Kirikhan hd.).  
       e *SNGvAulock* 7921, 16.44 g  
 30.      a Seyrig, *Trésors* 20.38 (Haiffa hd.) = Dupriez 90, 12 Dec. 1906, 35.  
       b \*Saarbrücken (private coll.) = Kastner 8, 25 Nov. 1975, 65, 16.83 g; Kirikhan hd. (Bank Leu), 16.83 g  
       c Kirikhan hd. (Bank Leu), 16.94 g  
 31.      a Hess-Leu, 16 Apr. 1957, 267, 16.61 g (pl. 10).  
 32.      a Platt, 3 Apr. 1933, 163 = Platt FPL (Coll. C), 22, 15.9 g = Naville 15, 2 July 1930, 956, 15.90 g = Hess, 25 March 1929 (Vogel), 340, 15.9 g = Egger 39, 15 Jan. 1912, Vienna dupl. 315, 15.88 g; Glendining, 4 Oct. 1957, 154, 16.19 g; \*Saarbrücken (private coll.) = Auctiones AG, Basel, 7, 7–8 June 1977, 253, 16.90 g  
 33.      a Hess-Leu, 6–7 Dec. 1966, 437, 15.55 g  
       b Ader-Vinchon, 15 Nov. 1965, 286; Brussels, *de Hirsch* 1509, 16.24 g ↑  
 34.      a Brussels, *de Hirsch* 1510, 16.39 g ↑  
       b Vienna 31.381, 16.38 g ↑ = Egger, 28 Nov. 1904 (Prowe), 1319, 16.33 g

*Erasippus Aristeou*

“Fine” style obverse, ethnic-right reverse

26.      a Glasgow, *Hunter*, vol. 2, p. 347, no. 7, 245.6 gr; Kirikhan hd. (MMAG), 16.85 g

27.     b \*Ratto, 4 Apr. 1927, 1956, 16.34 g  
       a Peus 283, 14–16 May 1974, 126, 16.52 g; Kirikhan hd. (Bank Leu), 16.75 g; Kirikhan hd. (Bank Leu), 16.78 g  
       b \*Harmer-Rooke, 28–29 May 1974, 1244, 16.912 g; Kastner 8, 25 Nov. 1975, 64, 17.13 g ↑  
       c Schlesinger 13, 4 Feb. 1935 (Hermitage 2), 1271, 15.8 g  
       d ANS, *SNGBerry* 1067, 16.53 g ↑; Geneva (private coll.; Kirikhan hd.).  
       e Numismatica Wien, 10–12 Oct. 1974, 20, 17.26 g; MMAG FPL 345, May 1973, 9, 17.04 g; London, Baldwin and Sons Ltd. (Kirikhan hd.); Munich (Kirikhan hd.); Munich (Kirikhan hd.); Saarbrücken (private coll.); Kirikhan hd. (Bank Leu); Kirikhan hd. (Bank Leu); Kirikhan hd. (Bank Leu); Kirikhan hd. (Bank Leu); Kirikhan hd. (MMAG), 17.06 g
28.     a MMAG 3, 4–5 Dec. 1973, 177, 16.39 g.  
       b MMAG FPL 366, Apr. 1975, 7, 16.78 g; Kirikhan hd. (Bank Leu), 17.02 g; Kirikhan hd. (MMAG), 16.95 g; Kirikhan hd. (MMAG), 16.92 g  
       c Peus 290, 5–7 Oct. 1976, 126, 16.51 g; Kirikhan hd. (Bank Leu); Kirikhan hd. (Bank Leu), 16.93 g; \*Kirikhan hd. (MMAG), 16.74 g
29.     a A. E. Cahn 80, 27 Feb. 1933, 342, 15.24 g = Rosenberg 72, 11 July 1932, 613, 15.20 g = A. E. Cahn 71, 14 Oct. 1931, 448, 15.24 g; Oxford, Ashmolean, 16.01 g ↑ = Naville 1, 4 Apr. 1921 (Pozzi), 2461, 15.99 g; Paris, *de Luynes* 2619, 16.05 g ↑  
       b Egger, 45, 12 Nov. 1913, 580, 15.50 g
30.     a Vienna 35.823, 16.43 g ↑ = Seyrig, *Trésors* 20.37 (Haifa hd.) = Dupriez 90, 12 Dec. 1906, 34.  
       b Kölner Münzkabinett, 9–10 Apr. 1974, 44, 16.96 g; Seyrig, *Trésors* 24.37 (Ras Baalbek hd.), 16.77 g.  
       c *SNGvAulock* 2042, 16.57 g = Seyrig, *Trésors* 22.78 (El-Aweiniyé hd.), 16.57 g; Kirikhan hd. (MMAG), 16.87 g  
       d Cambridge, McClean, vol. 3, no 283.8, 16.7 g ↑
31.     a Berk FPL 1, Apr. 1974, 122; Kirikhan hd. (Bank Leu), 16.67 g; Kirikhan hd. (MMAG), 16.90 g

32.     a London, Baldwin and Sons Ltd. (Kirikhan hd.); Kirikhan hd. (Bank Leu), 16.90 g  
       b H. A. Troxell, *The Norman Davis Collection* 211, 16.00 g ↑  
       c Athens 16.58 g ↑ = Hirsch 14, 27 Nov. 1905, 527, 16.62 g  
             = Hirsch 11, 4 May 1904 (Coll. M.), 360.
33.     a Naville 12, 18 Oct. 1926 (Bissen et al.), 1797, 16.09 g =  
             Hess, 18 Mar 1918, 681, 16.15 g = Hirsch 30, 11 May 1911  
             (Barron), 569, 16.10 g  
       b Kirikhan hd. (MMAG), 16.89 g
34.     a *BMC Ionia* p. 162, no. 37 (pl. 18, 10), 258.1 gr.  
       b Hirsch 25, 29 Nov. 1909 (Philipsen), 2157, 16.15 g; Stack's,  
             27 June 1952, 1154.  
       c Geneva (private coll.; Kirikhan hd.).  
       d Kirikhan hd. (MMAG), 16.75 g

#### ARISTOKRATES ANDRONOS-?

##### *Aristokrates Andronos*

“Fine” style obverse, ethnic-right reverse

35.     a \*Hirsch 25, 29 Nov. 1909 (Philipsen), 2158, 16.15 g

#### PYTHODOROS DEMOKRATOU-?

##### *Pythodoros Demokratou*

“Fine” style obverse, ethnic-right reverse

36.     a \*Copenhagen, *SNG Cop* 845 (pl. 19), 15.91 g ↑

#### ADDENDUM

Since the completion of my manuscript I have become aware of a recent article by Louis Robert, *RN* 1977, pp. 34–45, in which Boehringer’s thesis is subjected to a number of impressive counter-arguments. None of these arguments, I am happy to note, is in conflict with the position I have taken in the present paper. While, however, I agree with Robert that there is no compelling evidence that the term “stephanephoros” refers to any coinage other than the Athenian New Style, the fact remains that the “autonomous” issues, wreathed and un-

wreathed, constitute a stylistically and chronologically closely-related constellation for which it is appropriate to seek a general explanation. The fact that Boehringer's hypothesis gives rise to serious difficulties should not inhibit our efforts to find a more satisfactory explanation elsewhere. The present paper offers an account for the establishment of the "autonomous" types in Asia Minor, specifically for those free states within the range of Attalid economic policy. No greater generality is suggested, nor, so far as I can see, would it be possible given the premises of the position. But someone may one day succeed in showing how all the "autonomous" emissions are related historically, even if, in some instances, nothing more is involved than stylistic imitation.



## THE SECOND REIGN OF DEMETRIUS II OF SYRIA AT TARSUS<sup>1</sup>

(PLATES 27-29)

ARTHUR HOUGHTON

For many years numismatists have recognized certain late Seleucid coinages struck at Tarsus by their use on reverse types of a monument or pyre of the deity Sandan on tetradrachms and, on drachms, the figure of Sandan standing on a horned and winged animal—probably a lion. The first such recorded use of the Sandan-type reverse occurs on a drachm struck under Alexander I Balas,<sup>2</sup> and this typology was maintained through the reigns of each of Alexander's successors until that of Seleucus VI,<sup>3</sup> when Seleucid control over Tarsus lapsed. More recently, however, it has become clear that the Sandan-type issues of Tarsus were, at least for a period of time, paralleled by a far larger coinage of silver whose reverse types imitated contemporaneous issues of Antioch. Such was the case during the second reign of Demetrius II.

The following inventory of the silver issues of Demetrius' second reign at Tarsus demonstrates the linkage between both reverse types. It is arranged in approximate chronological order, according to the use of monograms and the state of wear of both obverse and reverse dies, although it is quite certain that several issues were struck concurrently. It should be noted that several issues of Demetrius heretofore

<sup>1</sup> This article retraces steps already taken by Henri Seyrig, to whom full credit should properly be given for recognizing the linkage of certain of Demetrius' seated Zeus-type coinages with the Sandan-type issues of Tarsus. The material available to Seyrig has been expanded, and an attempt has been made to establish an orderly sequence of known specimens in public and private collections; it was he, however, who first perceived the key elements upon which the Tarsus attributions provided in this study have been based.

<sup>2</sup> *MonnGr*, p. 433, 96.

<sup>3</sup> *RN* 1969, p. 15, no. 8.

assigned to Antioch<sup>4</sup> have been reattributed to Tarsus in this study.  
All die positions are upright (↖, ↑, or ↗).

### SEATED ZEUS REVERSE

#### BEARDLESS PORTRAIT

##### Tetradrachms

- Obv.:* Head of young Demetrius, without beard, to r.; fillet border.
- Rev.:* Zeus seated to l. on throne, holding in outstretched r. hand Nike who faces away from him with wreath in upraised hands; l. hand rests on long sceptre; to r., ΒΑΣΙΛΕΩΣ ΔΗΜΗΤΡΙΟΥ; to l., ΘΕΟΥ ΝΙΚΑΤΟΡΟΣ; in outer l. field, Λ above Ε (probably ΝΕ).  
 A1-P1      16.41 Private coll. (Plate 27).  
*Obv.:* Same.  
*Rev.:* Same type and inscription, but Nike faces Zeus; in exergue, Λ ΝΕ.  
 A1-P2      15.39 London, British Museum. *BMC Seleucid* 14 (Demetrius II, First Reign), pl. 17, 9 (monogram rendered ΛΝΕ).

#### BEARDED PORTRAIT

##### Tetradrachms

*Group A:* ΛΝΕ or Λ ΝΕ.

- Obv.:* Bearded head of Demetrius to r.; fillet border.  
*Rev.:* Same.  
 A2-P2      16.35 Münzen und Medaillen 32, 20 Oct. 1966, 147.

<sup>4</sup> E. T. Newell, *Seleucid Mint of Antioch*, 318–19.

*Obv.:* Same.

*Rev.:* Same type and inscription, but Nike faces away from Zeus; in outer l. field,  above . (Plate 27).

- |       |       |   |
|-------|-------|---|
| A3-P3 | 16.48 | H. Seyrig, <i>Trésors du Levant anciens et nouveaux</i> (Paris, 1973; hereafter cited as Seyrig), 30.332, pl. 36. (Plate 27). |
| " "   | 16.49 | Münzen und Medaillen 53, 29 Nov. 1977, 146.   |
| " P4  | 16.51 | Private coll. (Plate 27).   |
| A4-P3 | 16.35 | New York, ANS (Newell coll.).   |

*Group B:*  

*Obv.:* Same.

*Rev.:* Same type and inscription; in outer l. field,  above .

- |       |       |   |
|-------|-------|---|
| A4-P5 | 16.48 | Private coll. (Plate 27).   |
| " "   | 16.47 | Busso Peus 277, 25–26 Oct. 1971, 139; SNG Lockett 3170; Naville 1, 4 Apr. 1921 (Pozzi), 3006.   |
| " P6  | 16.77 | Private coll.; Kricheldorf, 23 Sept. 1963, 156. (Plate 28).   |
| " "   | 16.50 | Boston, Museum of Fine Arts (MFA 2181); Naville 6, 28 Jan. 1924 (Bement), 1701.   |
| " "   | 16.63 | Münzhandlung Basel 4, 1 Oct. 1935, 882; A. Hess, 7 March 1935, 420.   |
| " "   | 16.44 | Paris, Cabinet des Médailles (Seyrig coll.); Hess-Leu, 24 March 1959, 293; A. Hess, 14 Apr. 1954, 186; Jameson 1735; E. T. Newell, <i>The Seleucid Mint of Antioch</i> (New York, 1918), 319. |

*Group C:*  

*Obv.:* Same.

*Rev.:* Same type and inscription; in outer l. field,  above .

- |       |       |   |
|-------|-------|---|
| A4-P7 | 16.41 | New York, ANS (Newell coll.). (Plate 28).         |
| " "   | 16.06 | Münzen und Medaillen FPL 256, July-Aug. 1965, 35. |
| " "   | 16.55 | Seyrig, 30.333, pl. 16.                           |

- " " 16.63 Bank Leu AG.  
 " P8 16.45 *SNGBerry* 1395.  
 " " 16.49 Galerie des Monnaies-Spink, 15–16 Feb. 1977,  
       158; Hess-Leu 49, 27–28 Apr. 1971, 258; Galerie  
       Sangiorgi, 15 Apr. 1907 (Strozzi), 1680. (Plate 28).  
 " " 16.35 Vinchon, 20–22 May 1959, 594; Platt, 27 June  
       1925 ("Diplomate"), 24.

*Group D:*  

- Obv.:* Same.  
*Rev.:* Same type and inscription; in outer l. field,  above .
- A4–P9      16.69 Naville 10, 15 June 1925, 1351. Lower monogram  
                  has been recut over  of reverse die P1.  
 " "      16.41 Vienna, Bundessammlung für Medaillen, Münzen  
                 und Geldzeichen.  
 " "      16.56 Copenhagen, National Museum. (Plate 28).  
 " P10      16.81 Hess-Leu 24, 16 Apr. 1964, 241. (Plate 28).  
 " "      16.55 Seyrig, 30.331, pl. 36.  
 " "      Ciani, 25 Oct. 1920, 109.  
 " "      16.38 J. Schulman, 17–19 May 1938, 1394.  
 A5–P11      Schulman Coin and Mint, 22–23 Feb. 1972, 92.  
 " "      16.16 Kricheldorf, 28–29 May 1956, 1128. (Plate 28).  
 " P12      16.75 Naville 10, 15 June 1925, 1350. (Plate 29).  
 " P13      16.53 New York, ANS (Newell coll.). (Plate 29).  
 " "      16.29 Private coll.  
 " P14      16.30 New York, ANS (Newell coll.). (Plate 29).  
 " P15      16.70 Paris, Cabinet des Médailles. E. Babelon, *Les rois de Syrie, d'Achéménie et de Commagène* (Paris, 1890), 1213; Newell, *Seleucid Mint of Antioch*, 318. (Plate 29).  
 A6 "      In commerce. (Plate 29).

SANDAN REVERSE

Tetradrachms

*Obv.:* Same.

*Rev.:* Monument or pyre, within which Sandan stands to r.  
       on back of horned and winged lion; to r., ΒΑΣΙΛΕΩΣ

ΔΗΜΗΤΡΙΟΥ, to l., ΘΕΟΥ ΝΙΚΑΤΟΡΟΣ; in outer l. field, Δ above Η.

- A3-P16      16.65 London, British Museum. *A Guide to the Principal Coins of the Greeks Based on the Work of Barclay V. Head* (London, 1932), Period 6, A27. (Plate 29).
- " "      16.72 Private coll.; Bank Leu-Münzen und Medaillen, 3–4 Dec. 1965 (Niggeler), 471; Jameson 1378.
- " "      16.46 New York, ANS (Newell coll.); Naville 10, 15 June 1925, 1358; Sotheby, 28 May 1900 ("Late Collector"), 432.
- " "      16.62 Hess-Leu 36, 17–18 Apr. 1968, 329; J. Hirsch 19, 11 Nov. 1907, 602.
- A7 "      16.58 Münzhandlung Basel 10, 15 March 1938, 379; A. Hess 207, 1 Dec. 1931, 674; Egger 41, 18 Nov. 1912 (Fenerly Bey), 732 (Demetrius II, Second Reign).
- " "      14.64 London, British Museum. *BMCSeleucid* 22 (Demetrius II, Second Reign).
- " "      16.60 Paris, Cabinet des Médailles. (Plate 29) (Demetrius II, Second Reign).

#### Drachms

*Obv.:* Same.

*Rev.:* Sandan standing to r. on back of horned and winged lion; to r., ΒΑΣΙΛΕΩΣ ΔΗΜΗΤΡΙΟΥ; to l., ΘΕΟΥ ΝΙΚΑΤΟΡΟΣ; in outer l. field, Δ above Η.

- A1-P1      3.83 London, British Museum. *BMCSeleucid* 23 (Demetrius II, Second Reign).

The rare unbearded tetradrachms of Demetrius at Tarsus were evidently struck at the very beginning of his second reign in Syria—drawing, perhaps, on the portraiture of his first reign and before it was known how his features had changed during his years of Parthian captivity. The brief issuance of this coinage under the magistracy of Η (or ΗΡ) and ΝΕ follows immediately after coinage of Antiochus VII

also struck under the same mint authorities;<sup>5</sup> it is in turn linked to later issues bearing Demetrius' bearded portrait through both of its two known reverse dies.

In all, at least six obverse dies were used on the seated Zeus-type tetradrachms throughout the four years of Demetrius' second reign at Tarsus, including the single obverse employed on his beardless portrait. This level of activity is generally consistent with Tarsus' status as an important mint, although it was less than that at Antioch where at least three obverse dies were used in the single year that Demetrius held that city. Significantly one of these obverses (*SNG Berry* 1394; Naville 10, 15 June 1925, 1348), which distinctively portrays Demetrius with uncurled hair, very closely resembles dies A2–4 at Tarsus and was undoubtedly the product of the same engraver. Given the evidence at hand, it may be reasonably surmised that this individual began work at Antioch in the opening months of Demetrius' reign, then moved to Tarsus to initiate Demetrius' bearded coinage at that mint.

By comparison with the seated Zeus-type issues, Demetrius' Sandan reverse-type coinage at Tarsus was extremely limited. The seven tetradrachms which have come to the author's attention were struck from a single reverse die, while two obverse dies were employed, one of which, A3, had been earlier used in conjunction with a seated Zeus reverse. The available evidence suggests, in fact, that this coinage was issued around 128 B.C., shortly after the initial appearance at Tarsus of Demetrius' bearded portrait. It does not seem, in any event, that this was an issue which continued until the end of Demetrius' reign, despite the implied continuity signified by the signature of Π on Sandan-type reverses of both Demetrius and his immediate successor, Alexander I Zebinas.

<sup>5</sup> Seyrig, 30.327; Naville 10, 15 June 1925, 1303 (Plate 28, A). Under Antiochus VII, Tarsus produced both standing Athena-type and Sandan-type issues (Naville 10, 15 June 1925, 1305 and 1308–9).

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## THE COINAGE OF SALONINUS AS AUGUSTUS

(PLATE 30)

NORMAN SHIEL.

It is clear that shortly after his usurpation Postumus did away with Gallienus' younger son Saloninus at Cologne.<sup>1</sup> When this event took place and for how long Saloninus was besieged at Cologne before falling into Postumus' hands are rather less clear. During this siege the young Saloninus produced an issue of coins in two metals, on which he declares himself an Augustus. This is a title not otherwise accredited to him and one which was never officially recognised by Gallienus. No doubt, had the resistance against Postumus been successfully maintained, then Saloninus would have been given full recognition as an Augustus in the stead of his ill-starred grandfather. The coins that commemorate his death, however, honor him simply as a Caesar which avoided having to acknowledge the loss of a second Augustus in the one year. This issue of coins in the name of Saloninus as Augustus was small and short-lived; very few indeed survived the fall of the city that produced them. Listed below are all the specimens it has been possible to trace, together with such details as are available for the others. All coins except nos. 2, 8 and 12 are illustrated. This is a sufficiently complete record from which to draw several useful pointers to the inadequately documented and still uncertain events surrounding Postumus' usurpation and the fall of Cologne.

<sup>1</sup> Zos. 1.38; Zonar. 12.24; S. H. A. *Tyr. Trig.* 3. See also J. F. Drinkwater, "Coin Hoards and the Chronology of the Gallic Emperors," *Britannia* 1974, pp. 293–302, especially p. 293. Note the discussion of the location of the Gallic mint in G. Elmer, *Die Münzprägung der gallischen Kaiser*, offprint from *Bonner Jb* 1941, 106 pp., illus. (hereafter cited as Elmer); and see also R. A. G. Carson, "A New Type for Postumus and Its Place in the Series," *Congrès International de numismatique, Paris, 6/11 juillet 1953, 2, Actes* (Paris, 1957), pp. 259–71; and H. D. Gallwey, "A Hoard of Third-Century Antoniniani from Southern Spain," *NC* 1962, pp. 355–406.

AUREI<sup>2</sup>

Cohen 22; *RIC* 1; Elmer 114.<sup>3</sup>

*Obv.*: IMP SALON VALERIANVS AVG Bust r., laureate, draped.

*Rev.*: FELICITAS AVGG ↓ Felicitas standing l. with caduceus and cornucopiae.

1. 2.37 ↑; 18 mm; BM.

## ANTONINIANI

Cohen —; *RIC* —; Elmer 109.

*Obv.*: IMP SALON VALERIANVS AVG Bust right, radiate, draped.

*Rev.*: FELICITAS AVGG ↓ Felicitas standing l. with caduceus and cornucopiae.

2. Same obv. die as nos. 9, 11, 14. Same rev. die as no. 3.

2.86 ↓; 22 × 19 mm; BM.

3. Same rev. die as no. 2.

2.83 ↓; 25 × 21 mm; Brussels II 55.147.

The only clue to provenance is the accompanying information "found in Belgium in a hoard." Distinct traces of overstriking are visible in exergue.

4. Same obv. die as no. 12.

2.71 ↑; 22 × 21 mm; ANS.

5. Same obv. and rev. dies as no. 6.

— ↑; 22 mm; private coll.

From a large hoard found in southern Spain (see note 1 above).

<sup>2</sup> I can find no trace of any aureus other than the British Museum piece, despite Elmer 113.

<sup>3</sup> See on this piece Cohen, vol. 5, p. 519, no. 22 and n. 1 "Les traits sont ceux de Valérien jeune," and, "Cette médaille ainsi que le No. 94 [this is a Spes reverse antoninianus as Augustus] ont du être frappées en Orient où les graveurs des coins commettaient beaucoup de fautes dans les légendes. Ce titre d'Auguste n'a jamais pu appartenir à Salonin qui mourut très jeune sans avoir été associé à l'Empire."

6. Same obv. and rev. dies as no. 5.  
2.66 ↓; 20 mm; Paris.  
From the Coesmes hoard. See P. le Gentilhommes, "Le Trésor de Coesmes," *Gallia* 1947, pp. 319–49.
  7. Same obv. die as nos. 5, 6.  
— ↓; 21 × 20 mm; whereabouts unknown.  
From the Bonneuil-sur-Marne hoard. See J.-B. Giard, "Malicorne et Bonneuil-sur-Marne: deux trésors monétaires du temps de Victorin," *RN* 1966, pp. 144–80, pls. 14–19.
  8. No longer traceable.  
Vallier, "Le trésor de Fins-d'Annecy," *Revue Savoisiennne* (Annecy, 1862), p. 12; P. le Gentilhomme, "Le trésor de Coesmes," *Gallia* 1947, p. 324, n. 1: "Une pièce semblable figurait aussi dans la trouvaille des Fins d'Annecy (Blanchet, *Les trésors monétaires...*, No. 170) elle avait été lue par erreur FELICITAS AVG avec un seul G."
- Cohen 94; *RIC* 14; Elmer 108.
- Obv.:* Same as nos. 2–8
- Rev.:* .SPES PVBLICA ↓ Spes standing l. with flower, raising dress with l. hand.
9. Same obv. dies as nos. 2, 11, 14. Same rev. die as no. 10.  
3.85 ↑; 21 × 20 mm; Berlin.
  10. Same obv. die as nos. 13, 15. Same rev. die as no. 9.  
2.48 ↑; 21 × 20 mm; Brussels II 65.141.
  11. Same obv. die as nos. 2, 9, 14.  
2.33 ↑; 20 mm; Paris.
  12. Same obv. die as no. 4.  
— ↑; 21 mm; whereabouts unknown.  
An electrotype is in the British Museum but lacks annotation or provenance.
  13. Same obv. die as nos. 10, 15.  
2.80 ↓; 22 × 21 mm; Vienna.  
Ex Voetter.
  14. Same obv. die as nos. 2, 9, 11.  
2.81 ↓; 20 mm; private coll.
  15. Same obv. die as nos. 10, 13. Rev. too worn to establish die link.  
3.0 —; 22 mm; private coll.

It is now impossible to ascertain whether any of these coins came from the Couvron hoard. De Belfort<sup>4</sup> published three of the Spes reverse antoniniani of Saloninus as Augustus, with 81 of him as Caesar in this hoard of 685 coins which range from Gallienus to Postumus.

There can be little question that these coins all came from the same mint at the same time, or that the mint was anywhere other than Cologne. The quality of the aureus has caused doubt in the past as to whether it might have been a product of the Rome mint, as it is of excellent workmanship, though small. There is no compelling reason why Gallienus might have struck coins at Rome on behalf of his son as an Augustus and, had he done so, it seems likely that rather more would have survived. There is also the fact that Gallienus nowhere else honors his son in this way, even on the commemorative coinage struck after his death. The aureus thus may best be regarded as the survivor of a small gold issue struck at the same place and time as the antoniniani, the great majority of which was seized and melted down upon the capitulation of the city. That this whole issue was produced under siege conditions seems clear from the limited range of types, apposite in themselves, the incidence of die linking between coins with such diverse provenances and also the paucity of extant specimens. This is borne out by parallels from other issues which are known to have been produced under rather similar circumstances, such as those of Uranius Antoninus at Emesa, or of Carausius at Boulogne.<sup>5</sup> Uranius Antoninus, who maintained himself in such straits for longer than either Saloninus or Carausius, produced the widest variety of issues, yet his coins are still closely die linked. The gold coins of Carausius which comprise my group three<sup>6</sup> are particularly closely die linked and the

<sup>4</sup> A. de Belfort, "Trouvaille de Couvron," *Annuaire de la Société Française de Numismatique et d'Archéologie* 5 (Paris, 1877-81), pp. 456-60. It is a reflection on his concept of rarity that he says, "Le trésor . . . ne contenait pas de grandes rarétés."

<sup>5</sup> I regard the "Rouen" issues of Carausius in gold and bronze (*RIC* 261-701) as the products of Boulogne while it was besieged by Constantius in 293. See N. Shiel, "The Episode of Carausius and Allectus," *British Archaeological Reports* 40 (Oxford, 1977), pp. 148-50, 180-83, and a forthcoming detailed study of this particular issue.

<sup>6</sup> Shiel (see above, n. 5), pp. 148-50.

issue as a whole promotes reverses particular to the circumstances of a siege issue with **TVTELA, SALVS** and **SECVRITAS**<sup>7</sup> coming into their own while the normally predominant **PAX** is not in evidence at all. **Felicitas** and **Spes** are themselves concepts appropriate to Saloninus' desperate predicament; the latter especially so because of its association with hopeful offspring.

This numismatic evidence provides only a speculative basis for assessing the duration of the siege, but does appear to provide useful pointers. Constantius' siege of Boulogne almost certainly began very soon after his elevation to the status of Caesar in March 293 and the panegyric suggests a siege of some duration.<sup>8</sup> Nevertheless it can only have been a matter of months, for Allectus had capitalized on its unfavorable outcome to replace the luckless Carausius before the year was out. That situation has produced an issue which exhibits some variety of types and of which the survival rate is nine aurei and well over 100 antoniniani. As there is no reason to ascribe very much more thoroughness to Postumus than to Constantius in the repression of the respective captured coinages, their relative scarcity ought to suggest that Cologne maintained a much shorter resistance than Boulogne. Indeed the absolute scarcity of these Saloninus pieces shows as much, as Bastien has commented.<sup>9</sup> The postulation of a short siege obviates the necessity to explain Postumus' first issues as the product of a *moneta castrensis*.<sup>10</sup> Further support is provided by Bastien's demonstration of the continuity of die engravers from the coins of Gallienus and Saloninus to those of Postumus.<sup>11</sup>

After a lengthy and detailed summary of the various arguments over the dating, Bastien himself expresses a preference for placing the usurpation of Postumus in mid-260.<sup>12</sup> In a recent article, J. F. Drinkwater, making no mention of Bastien's work, argues strongly against this

<sup>7</sup> See N. Shiel, "The OPES Legend on Coins of Carausius," *RN* 1973, pp. 166–68.

<sup>8</sup> Pan. Lat. 4.8; 6 and 7.

<sup>9</sup> P. Bastien, *Le Monnayage de Bronze de Postume* (Wetteren, 1967), pp. 17–18, 46–47. The first chapter of this work provides an excellent summary of the previous treatments of the problem of Postumus' chronology.

<sup>10</sup> See Carson (above, n. 1), p. 271. He assumes a "siege of several months."

<sup>11</sup> Bastien (above, n. 9), p. 48.

<sup>12</sup> Bastien (above, n. 9), p. 19.

dating by trying, in particular, to discredit the evidence of the Alexandrian coinage: "the east had been under constant and growing pressure from external enemies . . . . This was hardly the time for any sort of sensitivity in the minting of coins and it was not improved by political instability within the Empire itself."<sup>13</sup> In such a situation, he sees that the mint simply carried on, as though nothing were happening, right up to the usurpation of Macrianus and Quietus; and that Gallienus deemed it in his best interests that this should be the case. This presupposes a very long time lag between the death of Saloninus and the cessation of Alexandrian issues in his name. That may be credible when taken in isolation, but seems rather less convincing if taken in conjunction with the capture of Valerian. That must surely have had some impact on the mint if it happened much before mid-260.<sup>14</sup> The year 259/60 saw an increased output from the mint of Alexandria<sup>15</sup> and this included a full issue for Valerian—which suggests that he was a free agent for most of that year. Aurelius Victor,<sup>16</sup> though in places a confused source, does say of Gallienus, "regnavit annos quindecim, septem cum patre," which suggests a date of 260 for Valerian's capture. If this took place before the downfall of Saloninus<sup>17</sup> then that, and hence the usurpation of Postumus, must be brought forward to 260.

<sup>13</sup> See above, n. 1.

<sup>14</sup> See *CAH*, vol. 12, p. 172 (Alföldi), for an attempt to date the capture of Valerian to June 260.

<sup>15</sup> See J. G. Milne, *Catalogue of Alexandrian Coins* (Oxford, 1971), p. xxiv.

<sup>16</sup> Aur. Vict. *Caes* 33.3.

<sup>17</sup> See S. H. A. *Val.* 2.2, "Valerianus et filium imperatorem habet et nepotem caesarem", and 3.2, "Valerianum et filius repetet et nepos . . . ."

## ROMAN AUREI FROM INDIA

(PLATE 31)

WILLIAM E. METCALF

The eight gold coins described below were shown at the American Numismatic Society in October 1977. All were said to have come from southern India, a provenance which is supported by the fact that four of the pieces are doubly pierced for suspension (one, no. 8, has been refilled in modern times).<sup>1</sup> There is no way of determining whether the pieces were found together.

1. *Obv.*: AIITOIIIIIVSAVGPI-VSPPTRPXIII

Head of Antoninus Pius laureate r. with drapery on r. shoulder.

*Rev.*: COS IIII around, LIB - V l. and r. in field, Liberalitas standing l., holding abacus in l. and cornucopiae in r.  
6.87 ↓ Twice pierced. (Plate 31, 1)

2. *Obv.*: ANTONINVS-AVGVSTVS

Bust of Caracalla laureate, draped, cuirassed r.

*Rev.*: RECTOR-ORBIS

(Caracalla as?) Sol radiate, naked except for cloak falling over l. shoulder, standing front head l., holding globe in extended r. and vertical spear, reversed, in l.

<sup>1</sup> Pierced gold coins are far more common in Indian finds than elsewhere. See E. Thurston, *Madras Government Museum. Coins. Catalogue No. 2. Roman, Indo-Portuguese, and Ceylon*, 2nd ed. (Madras, 1894), p. 7 (aurei, Trajan-Faustina, found at Nellore, 1787); p. 9 (a solidus of Zeno found in the Tirumangalam taluk, Madura district, 1839); pp. 22-24 (15 aurei, Tiberius-Caracalla, found at Vinukonda, 1889); "Gold Roman Coins Found in India," NC 1843, p. 202 (18 aurei, Antoninus Pius-Septimius Severus, some pierced, found at Dharphul, 1840); P. L. Gupta, *Roman Coins from Andhra Pradesh*, Andhra Pradesh Government Museum Series 10, (Hyderabad, n.d.), pp. 77-78 (two gold coin-like medallions displaying Roman influence, both pierced); p. 62 and pl. 26 (a pierced aureus of Plotina found with aurei of Claudius and Antoninus Pius at Gootiparti or Guttipalle, 1936-37).

- 6.97 ↑ Struck at Rome, A.D. 199–200. *RIC* 4.1, p. 218, no. 39;  
*BMCRE* 5, p. 186, no. 163. (Plate 31, 2)
3. *Obv.:* SEVERVSPIVSA[VG] - PMTRPVIII  
Head of Septimius Severus laureate r.  
*Rev.:* FELICITAS around, SAECVLI in ex.  
Draped bust of Julia Domna facing between busts of Caracalla draped, laureate cuirassed r. on l. and Geta draped, bare l. on r.
- 6.94 ↓ Twice pierced. Struck at Rome, A.D. 201. *RIC* 4.1, p. 114, no. 175; *BMCRE* 5, p. 203, no. 255 (same dies). (Plate 31, 3)
4. *Obv.:* SEVERVS - PIVSAVG  
Head of Septimius Severus laureate r.  
*Rev.:* LIBERA - LITAS around, AVGGVI in ex.  
Liberality scene l.: Septimius seated l. between Caracalla and Geta on platform; in front of them, Liberalitas standing l. holding abacus in l. and cornucopiae in r.; behind them, attendant carrying rod in l.; on steps leading up to platform, male figure r. holding out fold of toga in both hands.
- 6.83 ↓ Struck at Rome, A.D. 209. *RIC* 4.1, p. 126, no. 279 (rev. legend given as LIBERALITAS AVG VI, but see pl. 7, 11); *BMCRE* 5, p. 220, no. 352 (same rev. die). (Plate 31, 4)
5. *Obv.:* SEVERVS - PIVSAVG  
Head of Septimius Severus laureate r.  
*Rev.:* RESTITVTO - VRBIS  
Roma seated l. on throne with shield at side holding spear vertically in upraised l. and uncertain object in extended r.
- 6.80 ↑ (Plate 31, 5)
6. *Obv.:* TVEVSEVT - PAITIVS VT  
Bust of Septimius Severus laureate, draped cuirassed r.  
*Rev.:* +VI F - SVTNOMSV Y VTVEVSO  
Male figure on horseback r. carrying spear in l.
- 6.55 ↓ Twice pierced. (Plate 31, 6)

7. *Obv.: ISEPISEΛNVCΙΙΙ - +IPARTMAX*

Head of Septimius Severus laureate r. Countermark on neck: 

*Rev.: VICTAVCTR - P - IICOSII*

Victory advancing r. holding wreath in extended r. and palm over shoulder in l.

6.94 ↓ (Plate 31, 7)

8. *Obv.: SEVERVS - PIVSAVG*

Head of Septimius Severus laureate r.

*Rev.: PMΤΡPXIII - COSIIIIPP*

Jupiter standing l. holding thunderbolt in r. and vertical sceptre in upraised l. To l., eagle.

6.74 ↓ Pierced twice and refilled. (Plate 31, 8)

Six of the eight coins present no problems. Nos. 2, 3, and 4 are clearly genuine products of the Roman mint which found their way to India; they add to the evidence for export—by whatever route—of Roman gold at this relatively late date.<sup>2</sup> Nos. 5, 6, and 7 corroborate that evidence: all are clearly imitations of Severan aurei, the two last grotesque parodies of Roman style and workmanship.<sup>3</sup> No. 5 would almost

<sup>2</sup> The most accessible list of Roman finds in India is that of P. L. Gupta (above, n. 1), pp. 41–46, which in turn derives from R. E. M. Wheeler, A. Ghosh and K. Deva, "Arikamedu, an Indo-Roman Trading Station on the East Coast of India," *Ancient India* 2 (1946), pp. 116–21. Gupta's nos. 26, 33, 37, 39–40, 42–44, 48–51, 53, 56 and 59 include coins of the Antonine or Severan periods. Manfred G. Raschke of Duke University generously allows me to cite from his paper, submitted to the Society's 1975 Graduate Seminar, an imitation of an aureus of Faustina I found in the Kistna district in 1899 (*Report of the Administration of the Madras Presidency during the Year 1899–1900* [Madras, 1900], p. 222). Raschke also points out that the aureus of Caracalla included in reports of the Kottayam hoard (Gupta [above, n. 1], no. 27) is almost surely an intruder and should be regarded as a separate find from the Malabar district. For another recently-discovered aureus of Septimius see now B. L. Nagarch, "A Roman Coin from Sehore (Madhya Pradesh)," *JNSI* 37 (1975), p. 158, corrected by P. L. Gupta, "Roman Aureus from Memadkhedi," *JNSI* 38 (1976), pp. 100–1.

<sup>3</sup> No. 6 may represent an attempt to imitate the reverse type of *BMCRE* 5, p. 253, no. 495 (A.D. 206), although there the horseman is clearly Septimius; if so, a somewhat earlier coin was used as the prototype for the obverse, since the bungled legend seems to suggest that it included PART as part of Septimius's titulary. No. 7 too mismatches obverse and reverse: the reverse is that of *BMCRE* 5, p. 30,

be convincing were it not for a slightly faulty legend and the substitution of an uncertain object for the figure of Victory normally held by Roma on genuine **RESTITVTOR VRBIS** coins of Septimius.

It is nos. 1 and 8 which are of real concern. Their reverses expose them for what they are—imitations—both by their style, the latter also by its flawed legend. What is troubling is that the obverses of both coins display marked similarities to known dies employed to strike certainly genuine coins of Antoninus and Septimius.<sup>4</sup> In general outline the busts on both pieces are identical to those of the genuine coins, even down to the peculiar form of drapery on the right shoulder of Antoninus and the detached outer ribbon of the laurel wreath of Septimius. The impression of identity is confirmed by identical measurements of the busts. It is only when one examines details of the hair on both coins that differences become evident.

The legends, however, tell a rather different story. On the coin of Antoninus the vertical strokes are all present, while diagonals and horizontals are omitted. The legend of Septimius is correct, and in general outline corresponds to that on the die being imitated, but the serifs are conspicuously larger, the ductus hesitant and uneven.

Line-for-line freehand imitation seems out of the question, particularly as we would have to suppose a degree of fidelity in rendering the bust

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no. 61 or p. 33\* (A.D. 194). Septimius only became **PART** when he was also **IMP XI**, probably in A.D. 198, and from 201 **PART** is usually omitted.

<sup>4</sup> The obverse die of no. 1 seems to be taken from one found with several reverses, as follows. Rev. **COS IIII Aequitas** standing l., ANS (Plate 31, A); Naville 17, 3 Oct. 1934 (Evans), 800; Ciani, 22 Feb. 1935, 493; and Vinchon, 29 Oct. 1973, 69. Rev. **LAETITIA COS IIII**, Ceres and Proserpina r., *HCC* 75; Schulman, 5 June 1930, 417 = Helbing, 20 June 1929, 4222 = Helbing, 20 March 1928, 536; M. Ratto, 4 June 1931, 207. Rev. **LAETITIA** around, **COS IIII** in exergue, Ceres and Proserpina r., Sotheby, 9 March 1936, 228. The reverse die of no. 1 may derive from H. Christensen, 1 Nov. 1966, 13 = Christensen, 9 July 1965, 328, but his photographs are too unclear to allow certainty.

The obverse die of no. 8 seems to derive from a genuine one of Septimius known in combination with two reverse types. Rev. **VICTORIA PARTHICA MAXIMA**, Victory l., Münzen und Medaillen, 1 July 1955, 802 = Rollin and Feuardent, 25 Apr. 1887 (Ponton d'Amécourt), 393 (Plate 31, B). Rev. **COS III LV DOS SAECVL FEC**, Liber and Hercules, *BMC RE* 5, p. 215, no. 314 = Sotheby, 13 July 1908 (O'Hagan), 497; Glendining, 20 Feb. 1951, 1816; J. Schulman, 31 May 1938, 422; Hirsch 29, 9 Nov. 1910, 1129 (Plate 31, C).

which is not paralleled in the legends. A probable alternative is manufacture of the imitative dies by a crude transfer process—e.g. sand casting—which resulted in dies that reflected *grosso modo* the outlines of the originals. Once the features of the emperor had been replicated in broad outline, details of the hair could be engraved freehand, while the lettering (presumably incomprehensible to the engraver) might merely have been sharpened up by deepening the impressions left by the transfer process. The bold lettering of the coin of Septimius could easily be reproduced; the finer lettering on the coin of Antoninus is reproduced only in the heavier vertical strokes.

The provenance of these finds supports the supposition that imitative aurei were actually manufactured in India.<sup>5</sup> Imitations of Roman gold might, of course, have found their way there as easily as genuine aurei did, but they seem to be found far more frequently in India than elsewhere,<sup>6</sup> and it is not easy to conceive of false aurei being manufactured specifically for export. Counterfeiting was, after all, a punishable offense;<sup>7</sup> and as the imitative aurei are of good gold there can hardly have been much profit from their fabrication.<sup>8</sup>

The purpose of this fabrication can only be determined when more evidence becomes available. The monetary function of Roman gold and silver in southern India in the first century can hardly be denied, in view of the large number of finds and the size of those finds. Whether the same is true of the late second and early third centuries may well be doubted. Denarii hardly ever occur, aurei only infrequently; among the aurei and imitations the high frequency of piercing for suspension suggests that they may have been sought after more as jewelry than as coin.

<sup>5</sup> It is worth noting, however, that the obverse die of no. 8 is known from another obvious imitation (Plate 31, D) which was acquired by the ANS in 1905. It has no known connection with India.

<sup>6</sup> Gupta (above, n. 1), pp. 77–79. See above, n. 2; and note also that the aureus of Divus Marcus Aurelius found at Chakerbedha is also imitative: T. G. Aravamuthan, "The Chakerbedha Find of Two Aurei," *JNSI* 7 (1945), pp. 6–10, quoted incorrectly by Gupta (above, n. 1), no. 51.

<sup>7</sup> See most conveniently P. Grierson, "The Roman Law of Counterfeiting," *Essays Mattingly*, pp. 240–61.

<sup>8</sup> Specific gravities of no. 8 and of Plate 31 C are both 18.9. That of no. 8 has of course been affected by the refilling.



# THE SUCCESSIVE MONETARY REFORMS OF DIOCLETIAN

(PLATES 32-33)

PATRICK BRUUN

The concept of the Diocletianic tetrarchy as a beautiful and symmetrical administrative structure based on the idea of a divinely engendered and inspired ruling dynasty easily obscures the fact that the tetrarchy essentially emerged out of a series of individual solutions, military as well as political, of the single problems faced by the founding father Diocletian.

The symmetry has also been thought to encompass the fiscal administration and the units producing coins, the mints. From Mommsen's views<sup>1</sup> of the provincial reorganization and the employment of one mint in each dioceses, we have through Michael Hendy's perceptive studies<sup>2</sup> arrived at a new point of departure. We can now understand better than before the exceptions to Mommsen's rule and, in addition, grasp the working and the importance of the imperial thesauri (frequently) connected with the mints. However, the picture drawn by Hendy is for the initial period largely based on the Verona list, and thus reflects the conditions prevailing about A.D. 322.<sup>3</sup> Obscured by the list is the gradual growth of the mint organization, which most likely accompanied the administrative reforms, the new division of provinces, the institution of the dioceses, the partition of the empire step by step into four parts, one for each ruler, each with an imperial residence, or capital, a court and an administrative center.

The discussion which follows could be termed an essay in administrative practices in the field of mint administration, mainly during

<sup>1</sup> T. Mommsen, "Die fünfzehn Münzstätten der fünfzehn diocletianischen Diöcesen," *ZfN* 1887, pp. 239-50.

<sup>2</sup> M. Hendy, "Mint and Fiscal Administration under Diocletian, His Colleagues, and His Successors A.D. 305-324," *JRS* 1972, pp. 75-82.

<sup>3</sup> Hendy (above, n. 2), p. 76, noting that the terminus ante quem is A.D. 324.

the tetrarchies. It probes the diffusion of the coining of certain denominations and certain types from imperial centers or epicenters, the transmission of models to the periphery, and tries to ascertain how administrative (and political) boundaries affected the formation of the coins. It is to be hoped that this type of study will indicate a path toward a more detailed picture of the administrative development in the decades prior to the inception of the Verona list.

The initial parts of this study are focused on the mint of Heraclea Thracum, the old Greek city of Perinthos, so renamed to honor Diocletian's younger imperial colleague Maximian who was descended, according to the tetrarchic theology, from Hercules. Heraclea is of particular interest to us for several reasons. In the early years of his reign Diocletian spent considerable time in the Balkans and in the western part of Asia Minor.<sup>4</sup> He obviously realized the economic and strategic importance of having an administrative center on the Bosphorus, and his decision, subsequent to his renaming of Perinthos, to make Nicomedia his capital, is consonant with this. Cyzicus, not far from Nicomedia, had in earlier years been one of the most important mints of the Empire, and, in fact, the earliest coins of Diocletian seem to have been struck at that mint.<sup>5</sup> By Diocletian's monetary reform, the date of which will be discussed below, there were three mints on the Bosphorus, Cyzicus, Heraclea and Nicomedia, belonging to three different dioceses, Asiana, Thracica and Pontica respectively.<sup>6</sup>

This study proposes to compare the coinage and the coining practices of single mints with those of other mints, and particularly with those of the neighboring mints, some of them belonging to the same unit of

<sup>4</sup> T. Mommsen, "Über die Zeitfolge der Verordnungen Diocletians und seiner Mitregenten," *Gesammelte Schriften 2, Juristische Schriften*, vol. 2, pt. 2 (reprint 1965), pp. 195–291, see pp. 273–77 for the year 293, and further pp. 283 ff. for Heraclea in November 294 and subsequently the end of the year in Nicomedia.

<sup>5</sup> K. Pink, "Die Goldprägung des Diocletianus und seiner Mitregenten (284–bis 305)," *NZ* 1931, pp. 1–2, 38–39.

<sup>6</sup> At least this is the division of later years. The division, if enacted at an early date, may not have been very important initially, but after the elevation of Galerius to imperial rank and fellow rulership, with the defense of the Danube frontier his special responsibility and the Balkans as his hinterland, the picture changed.

administration, others subordinated to a ruler other than the master of the mint city in question.

The following two problems have been thought relevant to our special field of inquiry: the date and scope of Diocletian's monetary reform; and the organization of the reformed silver coinage during the first tetrarchy. These points regard events of importance for all the Empire. The events, or the decisions taken, however, were located in the Balkan area, whence their repercussions radiated to the political periphery.

### THE DATE AND SCOPE OF DiOCLETIAN'S MONETARY REFORM

It is a commonplace to speak of Diocletian's monetary reform as something that was carried out once and for all at a certain date and subsequently proved to be more or less a success. In reality Diocletian here, as in many other fields, proceeded slowly, step by step,<sup>7</sup> although we have no means of ascertaining whether these steps were taken according to a preconceived plan. Suffice it to say, in this context, that the first step regulated the weight of the aureus, reducing it from 1/70 of the libra to 1/60.<sup>8</sup> The next step, several years later, was the creation of a new copper-based quarternary copper-lead-tin-silver denomination<sup>9</sup> issued at the weight standard of 1/32 libra, and equalling 10 denarii.<sup>10</sup>

<sup>7</sup> This view is strongly underlined by M. Giacchero in her publication of and comments on the new fragments of Diocletian's Edict of Prices: "Il valore delle monete Diocleziane dopo la riforma del 301 e i prezzi dell'oro e dell'argento nei nuovi frammenti di Aezani dell'Edictum de pretiis," *RIN* 1974 (publ. 1975), pp. 148–49. Many years before, Sutherland, ("Flexibility in the 'Reformed' coinage of Diocletian," *Essays Mattingly*, p. 176) accepted the thought of a ten-year process for the reform of the gold-silver-copper. Even the new denomination in *aes* may not have been introduced simultaneously at all the mints (Sutherland, p. 177).

<sup>8</sup> Pink (above, n. 5), pp. 38–39.

<sup>9</sup> H. Cope, "The Argentiferous Bronze Alloys of the Large Tetrarchic Folles of A.D. 294–307," *NC* 1968, p. 131.

<sup>10</sup> See M. Crawford, "Finance, Coinage and Money from the Severans to Constantine," *Aufstieg und Niedergang der römischen Welt*, vol. 2, pt. 2 (Berlin, 1975), pp. 578, 585.

Shortly before this paper had to be delivered to the editor, the present writer became acquainted with Eberhard Ruschenbusch's study "Diokletians Währungs-

At the same time a new coin in pure silver was created, the Neronian denarius revived, issued at 1/96 of the libra, and valued at 50 denarii.<sup>11</sup> The purpose of this reform was not to replace the circulating antoniniani with new denominations but, on the contrary, initially at least, to supplement the coinage with higher units, certainly required by the market.<sup>12</sup> The fact that antoniniani, argentei and nummi (I concur with J. P. Callu<sup>13</sup> and Michael Crawford<sup>14</sup> that “follis” should be used exclusively to denote money bags and not for single coins denoting a denomination) were meant to circulate side by side, implies that: the production of nummi did not necessarily interrupt the production of antoniniani or corresponding coins,<sup>15</sup> and the reform did not have to be carried out

reform vom 1.9.301,” *ZPE* 1977, pp. 193–210, where Crawford’s views are regarded with restraint—to put it mildly. Ruschenbusch has a very pragmatic approach to the prices in Diocletian’s edict, but appears to simplify the problem. As a detailed discussion is excluded in this context, I would like to confine myself to two general remarks: Crawford and Ruschenbusch agree that the value of the argenteus and the nummus was doubled through the Edict, and when Ruschenbusch attaches much importance to the practical aspects of Diocletian’s arrangements and also to the correspondence between the prices and the monetary denominations, one is inclined to question a system which starts off with the equivalent to 6.25 and 12.5 denarii and ends with 12.5 and 25 denarii (see p. 208). I propose to return to this problem in another context.

<sup>11</sup> Crawford (above, n. 10), pp. 578, 585.

<sup>12</sup> Crawford (above, n. 10), p. 578.

<sup>13</sup> J.-P. Callu, *La politique monétaire des empereurs romains de 238 à 311*, Bibliothèque des Écoles françaises d’Athènes et de Rome 214 (Paris, 1969), p. 360.

<sup>14</sup> Crawford (above, n. 10), p. 580, n. 80.

<sup>15</sup> For the existence of pre-reform antoniniani of Trier, Lyons and Rome with vota types (pointing to the year A.D. 293/4) and preceded by consular coins of the Caesars (i.e. issued at the earliest when the Caesars, elevated to imperial rank on 1 March 293, entered upon their first consulships on 1 Jan. 294), see *RIC* 6, p. 1, which shows that this denomination was struck well into A.D. 294. (All future *RIC* references are to vol. 6.) Coins such as these could be expected to have been struck as donatives, and donatives would naturally comprise old, accepted denominations. The very existence of these festal coins shows that antoniniani and nummi were supposed to circulate side by side. Consequently, the fact that antoniniani in some mints seem to have been issued at least for the New Year of 294 does not exclude the possibility of new nummi being issued contemporaneously at other mints or, even, at the selfsame mints. All the excellent and painstakingly conducted analyses aiming at establishing the dates of the last issues of antoniniani, for instance, at

simultaneously throughout the Empire, but could gradually be introduced in areas chosen by the authorities. It is, in fact, easy to see that a reform with a new currency, which overnight would take the place of coins current for close to a century, could easily have had an unsettling effect on the population.

But, and this is a very important aspect of Diocletian's reformist policy, the final step was taken in A. D. 301 as demonstrated by the edict of Aphrodisias;<sup>16</sup> the nummus and the argenteus were revalued at 20 and 100 denarii, but not the antoniniani (nor the fractions). Thereby the antoninianus was finally ousted from the monetary system.

The discussion concerning the date of the Diocletianic reform (in everyday parlance: the creation of the new *aes* coin together with the recreation of the Neronian denarius) has largely focused on the chronology of events in Egypt.<sup>17</sup> For Callu the discontinuance of the local Alexandrian coinage was coincident with the date of the *aes* reform,<sup>18</sup> which he placed in A.D. 296, whereas Sutherland convincingly demonstrated that the two coinages existed together for a couple of years and therefore dated the reform to A.D. 294.<sup>19</sup>

Now, there are indisputable signs of the new nummi having been issued at a time that cannot be covered by the rough dating "ca. 294" (see *RIC* 6, *passim*). The first issue of nummi at Heraclea, documented by a substantial bulk of material, was struck in the names of Diocletian and Maximian only (*RIC*, p. 530, nos. 12a-b).<sup>20</sup> The date of this series must consequently be earlier than 1 March 293. The earliest sign of a reform of the *aes* coinage thus occurs in the first months of the year

Trier (H. Cahn, "Die Trierer Antoniniane der Tetrarchie," *SNR* 1955, pp. 5–22) and Lyon (Bastien, see below, n. 27) do not, consequently, show us the terminus post quem for the start of the reformed *aes* coinage, the nummi.

<sup>16</sup> Crawford (above, n. 10), p. 585.

<sup>17</sup> A recent comprehensive survey of the numismatic discussion is A. Geissen, "Numismatische Bemerkung zu den Aufstand des L. Domitius Domitianus," *ZPE* 1976, pp. 280–86, as a supplement to J. D. Thomas, "The Date of the Revolt of L. Domitius Domitianus, 253–279," *ZPE* 1976, pp. 273–79.

<sup>18</sup> J. P. Callu, *Genio Populi Romani* (295–316), *BiblEcPratHÉt* 314, 1960, pp. 20 ff.. and subsequently (above, n. 13), pp. 190–193.

<sup>19</sup> *RIC*, pp. 1–2.

<sup>20</sup> K. Pink, "Die Silberprägung der Diocletianischen Tetrarchie," *NZ* 1930, p. 26, notes this phenomenon, but expects coins of the Caesars yet to turn up.

293; assessment of the relative chronology of the nummi of the several mints should take A.D. 293, not 294, as a point of departure.

One more indication that the inception of the reform took place before the elevation of the Caesars is discernible in the silver coinage of Siscia comprising, in the initial stage, coins of the two augusti issued in one officina only (in contrast to subsequent coining in two officinae for four rulers).<sup>21</sup> Both Sutherland (*RIC*, p. 441) and Jeločnik<sup>22</sup> are very much aware of the fact that this would invite the conclusion that the coinage started before 1 March, yet both decline to accept this solution. In view of what we know today of the intent and character of Diocletian's reform, this firm stand in favor of a sweeping and sudden overall reform appears unwarranted.

Jeločnik largely based his conviction on an analysis of the tetrarchic argentei. This gives us an additional reason for studying the organization and development of the reformed silver coinage.

#### THE REFORMED TETRARCHIC SILVER COINAGE

Jeločnik's analysis of the Sišak hoard, which yielded almost three times as many coins as persistent research had been able to trace in preceding years (see *RIC* 6, pp. 440–41), is concentrated on the coinages of Siscia, Ticinum and Rome, representing 98.7 % of the hoard (above, n. 21). Considering that these three mints were subject to the same administration (located in the part of the Empire allotted to Maximian), it is not surprising that the similarities of the coinages of these three mints were conspicuous. This, however, might induce us to question the validity of the assumption that other mints acted in the same way

<sup>21</sup> *RIC*, p. 459, nos. 32a–b; see also A. Jeločnik, "The Sišak Hoard of Argentei of the Early Tetrarchy," *Situla* 3 (Ljubljana, 1961), p. 42.

<sup>22</sup> Jeločnik (above n. 21). See his discussion on the date of Diocletian's reform, pp. 59–64. His conviction (pp. 61–62) is based on the assumption that the essential part of Diocletian's reform refers to silver and copper simultaneously, that a chronological approach must be made by way of the antoniniani, and that Herbert Cahn, "Die Trierer Antoniniani der Tetrarchie," *SNR* 1955, p. 21, has shown the last Treveran antoniniani to be of the end of A.D. 293; and that the three mints of Siscia, Ticinum and Rome began minting the reform coins simultaneously, and probably also Trier and Heraclea. The year for this would be 294.

as the mints of the Central Empire. The purpose of this investigation is, in fact, to ascertain the amount of leeway, of variety, accorded to the individual mints, accepting that the reformed silver coinage should be regarded as a whole.

The first phase of the study will concentrate on the particulars of the reverse type most aptly described as "four at sacrifice in front of a walled enclosure," the four normally identified with the tetrarchs.<sup>23</sup>

The second phase will deal, in a general way, with the chronology of the camp gate reverses of the first tetrarchy, which succeeded the "four at sacrifice" types.

Pink's study of the tetrarchic silver coins (above, n. 20) tried to reconstruct the *Aufbau* of the coinage, the plans worked out by the central authorities. He singled out groups of mints, the coinages of which had certain common characteristics, a western group comprising: (a) Rome, Carthage, Ticinum (at that time still most commonly named the "T"-mint), Aquileia; and (b) Lyons and Trier; and an eastern group of (a) Cyzicus, Heraclea, Nicomedia, Thessalonica and Serdica; and (b) Antioch and Alexandria, and then finally as something *sui generis*, Siscia. This is obviously, in a general way, the correct approach to a coinage which, while maintaining its typological sameness, demonstrates great variety in detail in the execution of the reverses, in the employment of reverse and obverse legends, and in the way the reverses were allotted to individual rulers. The investigation below aims at studying the silver coinage within certain determined administrative areas, the extension of which depends on the evidence of the single issues.

<sup>23</sup> If the earliest issue, as maintained above, was struck in advance of the elevation of Constantius and Galerius to imperial rank, why then four persons at the sacrifice? The question may appear academic, but it could be said that those officiating at the sacrifice were two persons, each with an attendant (the attendants later identified with the Caesars). Another, if very speculative, explanation would be that the coins were issued very early in A.D. 293 when the decision to nominate the Caesars had been made. This would be plausible if both Caesars had been promoted on 1 March 293, later celebrated as their joint *dies imperii*, but Maximian seems to have invested Constantius on that day in Milan, whereas Galerius' investiture may not have taken place until May (*RIC* 6, p. 9).

The earliest series without mint mark was issued at Siscia before the nomination of the Caesars (1 March 293 is consequently a terminus ante quem) and consisted of:<sup>24</sup>

VIRTVS MILITVM, enclosure with eight turrets issued in one officina, with obverses of Diocletian and Maximian (nos. 32a–b, Plate 32, 1–2). VIRTVS-MILITVM and VICTORIA-SARMAT, both with the same imagery of eight-turreted enclosure issued in two officinae for Diocletian, Maximian and the two caesars (nos. 43a–b, Plate 32, 3–4; nos. 34a–35b). A similar unmarked series, only with differing reverse breaks (VICTORIA-SARMAT, nos. 37a–38b, Plate 32, 5–7; VIRTVS M-ILITVM and VIRTVS MI-LITVM, nos. 46a–48, no. 47a: Plate 32, 8) and also with an expanded reverse legend for the former type (VICTORIA-SARMATIC, no. 39; VICTORIA-SARMATICA, no. 40).

The material preserved is not large enough numerically to permit us to reconstruct the coining procedure in detail and safely identify the number of issues covered by this range of reverse variation.

The practice of connecting all obverses with each reverse continues, throughout the Siscian silver series. Trier and the Italian mints act accordingly, but the Balkan and the eastern mints do not.

The first Siscian reverse depicted “four at sacrifice” in front of an enclosure with eight turrets (within the series of the unmarked coins, succeeded by a camp wall with only six turrets). In the final stage of the eight-turret series a new reverse legend PROVIDEN-TIA AVGG (no. 33a) was created and added to the earlier ones, which then continued to be struck with the other reverse legends (no. 36, 41–42, 45)<sup>25</sup> in the six-turret phase (no. 33b).

The reverse image with six turrets is the normal type for the marked issues with SIS (Plate 32, 9) or \*SIS in exergue. It seems thus logical to conclude that the reverse with eight turrets represents an earlier type, the reverse with six a later one; and PROVIDENTIA AVGG appears as an innovation shortly before the eight-turret type is replaced by the six-turret one.

<sup>24</sup> The following coin numbers all occur at *RIC*, pp. 459–60.

<sup>25</sup> *RIC* 36 is actually a reverse of curtailed reverse legend . . . SARMAT, and does consequently blur the logical sequence I am trying to reconstruct.

The only other mint to issue argentei of the type "four at sacrifice in front of an eight-turreted enclosure" was Trier. The coins are, however, very scarce, and *RIC* does not record them as a distinct reverse variety.<sup>26</sup> It is clear that the first tetrarchic argentei of Trier were issued comparatively early and it is possible to establish, roughly, the time when coining instructions were forwarded from Siscia to the new Gallic capital. An indication of this is given by the absence among the Trier reverses of the legend **PROVIDENTIA AVGG** (in contrast to issues of the eastern mints and of Rome and Ticinum). The lack of reverses of this legend with eight-turreted enclosures could be due to pure chance, were it not for the fact that no *Providentia* coins were struck with the later, amply documented six-turreted reverses (in accordance with the practice of the other mints, where *Providentia*, once introduced, was continued in subsequent series). Consequently, coining instructions regarding the new argentei were issued before the reverse **PROVIDENTIA AVGG** was introduced at Siscia. Again, this happened in the lifetime of the eight-turreted reverses.

The earliest argentei of Trier would thus have been the unmarked coins of the eight-turreted reverses, the second series the unmarked coins of the six-turreted type, the third series the coins with officina marks **C** and **D** (*RIC*, pp. 175–76).

The time when the **C** and **D** officinae were transferred from the mint of Lyons to Trier can be assessed with a fair amount of accuracy. In his analysis of the coinage of the mint of Lyon, Bastien notes that the employees of the third and fourth officina of Lyon were transferred to Trier in the beginning of A.D. 294.<sup>27</sup> Antoniniani issued at Trier in

<sup>26</sup> For the reverse **VICTORIA-SARMAT** (*RIC*, p. 195, no. 100), Sutherland records the type with a "six-turreted (occasionally eight-turreted) enclosure." Whether this refers to the reverse **VIRTVS-MILITVM** (no. 102a) also is uncertain; the reverse is described "As no. 100" (i.e. **VICTORIA-SARMAT**) but whether the exceptional eight-turreted reverses are connected with this reverse legend, too, is in doubt. I have not seen any eight-turreted reverses myself, and only very few reproductions.

<sup>27</sup> P. Bastien, *Le Monnayage de l'atelier de Lyon 285–294*, Numismatique romaine 7 (Wetteren, 1972), p. 75, and his earlier "Les Émissions de l'atelier de Lyon en 293 et 294," *RN* 1959–60, pp. 87–88. This section on the coinage of Trier owes much to Pierre Bastien, who has been kind enough to read the first draft of the typescript. He questioned some of my original conclusions out of his profound knowledge of the Gallic coinages—and he may not be entirely happy with this final version, for which

workshops marked with the same officina letters have consular busts of the newly appointed caesars; this suggests a date of issue after 1 Jan. 294.

Accepting this chronology for the transfer of the two Lyon workshops and adding the fact that the C and D marked officinae struck the third series of Treveran argentei, it is quite clear that the two first (unmarked) series of argentei are to be dated A.D. 293; for the series of reverses of eight-turreted enclosures the terminus post quem is 1 March 293, for the series with six-turreted enclosures the terminus ante quem is 1 Jan. 294. As a corollary to this we can conclude that the eight-turreted reverses of the Siscian argentei came to an end in A.D. 293 (see the discussion concerning the PROVIDENTIA AVGG above, pp. 136–37).

In conclusion it should be pointed out that antoniniani and argentei were issued at the same time in Gaul to circulate in the same market, both denominations being part of the same monetary system. The nummi, however, were apparently not issued in Gaul at the same time as the antoniniani. The earliest nummi carry no references to the imperial consulships nor to the *decennalia* of Diocletian and Maximian (see *RIC*, p. 179 for Trier, pp. 241–42 for Lyon), but *when* in A.D. 294 this denomination was introduced into the coinage of Trier cannot be determined with any accuracy. Nevertheless, this process shows that the Diocletianic reform was carried out with circumspection, step by step and not necessarily in the same way in all the parts of the empire.

As Trier issued VICTORIA-SARMAT and VIRTVS-MILITVM for all four rulers, but no PROVIDENTIA AVGG, this enables us to determine the point when the orders from Siscia, then organizing the coining of the argentei, went to Trier. Having gone into the six-turret phase, Trier retains the pattern, once accepted, to the end of its argenteus coinage, (that is during the first tetrarchy, nos. 104a–33; 117b: Plate 32, 10) through several major series.

Rome and Ticinum start with the six-turreted type, issuing all three versions, VICTORIA SARM(ATICA), VIRTVS MILITVM and PROVIDENTIA AVGG with all rulers in many issues, at first without mint mark,

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I take all the responsibility at the same time as I thank him for correcting some  
blatant errors.

subsequently with differing marks.<sup>28</sup> In obverse legends and the abbreviations of VICTORIA SARMATICA Siscia differs from the Italian mints.

The coinages of the eastern mints, including Heraclea, form a coherent group with many similarities in detail. Chronologically, the inception of the coinage appears to coincide with the start of the coinage of the city of Rome, the earliest reverse type showing a six-turreted enclosure; the reverse legends include PROVIDENTIA AVGG. The obverse legends regularly record the name of the ruler and AVG or CAESAR as at Siscia.

The Heraclean issue mark H€ should be regarded as the earliest because the mint in this and the following issue presents four reverses, one for each ruler, presumably owing to a misinterpretation of the instructions given (?), and distinguishing between VICTORIA SARMAT and VICTORIA SARMATICA. This may mean that the distinction originated in the Siscian models for Siscia struck both varieties. This differentiation would have been more difficult to explain if the two reverse varieties had originated in the VICTORIA SARMATICA of Cyzicus.

The relationship among the silver issues of Heraclea, Cyzicus and Nicomedia may be presented in the form of a stemma (below, p. 140). I have recorded for each issue the distribution of labor within the mint, that is, the allocation of special reverses for individual rulers.

It should be noted that the transmission of the production of the argentei from Heraclea to other mints does not seem to include a transfer of engravers, but of models, including type design, and of instructions regarding the organization of the coinage. To establish the mobility of engravers, a different kind of study would be required.

An iconographical nicety of some importance for our evaluation of the development may be noted in passing: one of the few readily recognizable facial characteristics in the imperial iconography of the first tetrarchy is the execution of the sideburns and beard of Constantius Caesar. In most eastern mints and issues the beard and whiskers are curly. This, however, is not the case in the silver coinage of Heraclea

<sup>28</sup> For the coinage of Rome, see A. Jeločnik, "Die Emissionsabfolge der frühen argentei-Prägung in der Münzstätte Rom," NZ 1972, pp. 76–79. Carthage and Aquileia, though at times coining in silver, do not strike the main types here under review.

a. <b>HE</b> ( <i>RIC</i> , p. 529, nos. 1–4)		
VICTORIA SARMAT	Diocletian	
VICTORIA SARMATICA	Maximian	
PROVIDENTIA AVGG	Constantius	
VIRTVS MILITVM	Galerius	
↓		
b. <b>HA-Δ</b> ( <i>RIC</i> , pp. 529–30, nos. 5–8; no. 6; Plate 32, 11) (same reverses, same division of labor)		<b>CM</b> ( <i>RIC</i> , pp. 578–79, nos. 4–6)
		VICTORIA SARMATICA Diocletian and Maximian
		PROVIDENTIA AVGG Constantius
		VIRTVS MILITVM Galerius
↓		
c. <b>HA-Δ</b> ( <i>RIC</i> , p. 530, nos. 9–11)	→	<b>SMNT</b> ( <i>RIC</i> , p. 555, nos. 18–20,; nos. 18, 20; Plate 32, 12, 13)
VICTORIAE SARMATICAЕ	Diocletian and Maximian	VICTORIAE SARMATICAЕ Diocletian and Maximian
PROVIDENTIAE AVGG	Constantius	PROVIDENTIAE AVGG Constantius
VIRTVTI MILITVM	Galerius	VIRTVTI MILITVM Galerius

and Nicomedia, whereas the Cyzicene argentei show a portrait with a curly beard. This is not the place for comments on the imperial iconography except for a statement that Pink's contention that "Das Porträt entwickelt sich langsam aus dem von Cyzicus zu dem von Nicomedia"—assuming Heraclea to be the intermediary link—is entirely misleading, and that his thesis of successive coining at Cyzicus, Heraclea and Nicomedia so that "Jede folgende Münzstätte übernimmt die Prägung der vorhergehenden und führt sie weiter"<sup>29</sup> is a sweeping generalization, which badly distorts the picture of what actually happened. The correctness of the assertion that the Nicomedian argentei were contemporaneous with the third Heraclean series, and not successive, is shown by the outline of the walled enclosure of the reverses; there is a correspondence between Heraclea (b) and Nicomedia, but not between Heraclea (c), which represents a further development of the walled enclosure, and the turreted wall of the argentei of Nicomedia.

The two easternmost mints, Antioch and Alexandria, constitute a group of their own. Their coinages show common characteristics, which

<sup>29</sup> Pink (above, n. 20), p. 25.

clearly distinguish them from the other eastern mints. The most important of these features are: with regard to the gradual development of the reverses, the coinages start with the reverse legends in the dative case, and with the reverses depicting a six-turret enclosure; no reverse inscribed **VIRTVTI MILITVM** was issued; the obverses of all rulers were connected with both the reverses struck; and reverses with a four-turret enclosure<sup>30</sup> unknown elsewhere in the last phase of striking.

The source of this coinage is in doubt, though the curly beard of the obverses of Constantius may be a clue (*RIC*, p. 662, no. 13a: Plate 32, 14). If the portrait was brought to Antioch with specific models employed for the silver coinage, Cyzicus is the only possible source. Otherwise the model and portrait employed for the Antiochene gold and *aes* coinage depicted Constantius with curly beard.

The above discussion of the tetrarchic silver coinage with "four at sacrifice" reverse cannot give any chronological landmarks for the single issues beyond the likelihood that the coinage was started before the nomination of the caesars. Nevertheless, a relative chronology for the beginning of the silver coinages is implied by the conclusions of the analysis.

The point of departure for the second phase of our study is the typological uniformity of the silver coinage (first a military camp with "four at sacrifice" in front, then two successive varieties of the camp gate type), which permits the assumption that the general outlines of the coinage were established for all the Empire by the central administration. It also seems natural to regard the types as successive and introduced in the same order in all the mints employed for issuing silver coins.<sup>31</sup>

Within the larger framework of the empire-wide coinage, entire regions (separate administrative entities) could adapt the instructions issued in an individual manner.<sup>32</sup> Triers' apparent insistence on main-

<sup>30</sup> The four-turret enclosure may well represent an error of interpretation as regards the models distributed. The two turrets in the left and right corners of the wall facing the viewer graphically coalesce with the representation of the enclosure. Consequently only four turrets appear as structures superimposed on the wall.

<sup>31</sup> Obviously the temporary closure of a mint may have caused certain types or series not to be coined at all at that mint.

<sup>32</sup> See for instance the "three-turret" type combined with the reverse legends **VIRTVS MILITVM** and **VICTORIA AVGG** at Rome and Siscia.

taining the "four at sacrifice" type into the second tetrarchy<sup>33</sup> or, at least, according to the dating of *RIC*, up to A.D. 300, may be such a sign of regional individualism. The acceptance of these general principles should force us to revise, at times fairly radically, the dates and organization of the coinages of several mints, when we approach the issues of the "camp gate" reverses.

When establishing the chronological framework—having explained the development of the coining of the type "four at sacrifice" above—we should work out the duration of the initial type and, consequently, the time for the introduction of the "four turret" type; and the date of the beginning of the coining of the "three turret" argentei.

It appears that the initial silver type continued to be struck longer than anywhere else—with the possible exception of Trier—at Alexandria, where the obverses of the last issue were influenced by the portraiture of Domitius Domitianus,<sup>34</sup> as was the contemporaneous *aes* coinage (*RIC*, p. 663, nos. 18a–b, 20, 21a–b; Plate 32, 15–16; Plate 33, 17–19). This implies that the series in question was produced at Alexandria during the final eight month siege of the mint city—at least this is a very definite possibility. This would indicate a date of Spring 297 or 298, depending on our interpretation of, above all, the papyrological material.<sup>35</sup> Consequently, Spring 297 would be the earliest possible date for the new reverse.<sup>36</sup>

Whichever solution we adopt, we are confronted by a conflicting view as to the dates of the eastern argentei in *RIC*. This concerns the mints of Antioch and Alexandria where the VIRTVS MILITVM with three turrets is said to have been issued in the years A.D. 296–98 (*RIC*, pp. 616–18, nos. 34a–43b) and A.D. 295–96 (*RIC*, pp. 661–62, nos. 9a–13b), respectively, and the mint of Nicomedia, where the "four turret"

<sup>33</sup> This may be questionable, see *RIC*, p. 205, n. 1, on the only coin known.

<sup>34</sup> See Pink (above, n. 20), p. 33 (see also his pl. 1, 16) with further references, and *RIC*, pp. 647 ff.

<sup>35</sup> Recently J. D. Thomas and A. Geissen (above, n. 17) have supported the date A.D. 297/8 for the rebellion.

<sup>36</sup> It should, however, be remembered that after the outbreak of the rebellion Alexandria and the mint were isolated from Antioch and the rest of the Empire, and thus unable to receive and conform to any instructions issued after Autumn 296 or, if we choose the later year, 297.

type was supposedly coined in A.D. 295–96 (*RIC*, pp. 555–56, nos. 21–26). Though this way of dating, which is based on an earlier date for the rebellion of Domitius Domitianus than can be accepted today, would allow for a chronological sequence of argenteus types similar to the one accepted above,<sup>37</sup> the numismatic chronology of the Balkan mints presented in *RIC*, which is not consonant with the *RIC* dates of the eastern mints, is clearly at odds with the suggested dates.

Sutherland, in the mint introductions,<sup>38</sup> dates the inception of the coinage of these mints largely on the evidence of the silver coins. Allowing for the fact that Thessalonica struck no argentei of the “four at sacrifice” type, he assigns the opening of the mint and the introduction of the “four turret” type to A.D. 298/9; in A.D. 302 the mint would have switched to the “three turret” type, and the issue of this would have continued in Serdica, when this mint was opened on the closing of Thessalonica in A.D. 303/4–5. Consequently, two types in the east, forced into the years 295–98, covered seven years in the Balkans, thereby, among other things, revitalizing a type seemingly extinct in the east.

The following brief discussion of the eastern argentei of the camp gate type derives from the *VIRTVS MILITVM* of Antioch, struck with six different marks. It is, as Sutherland repeatedly stressed in *RIC*, absolutely necessary that the coinages in different metals should not be considered in isolation. Using the imperial portraits as a key to the chronology and comparing the argentei to the prolific series of nummi, I think there is a perfect correspondence between the portrait of one of the earlier argentei (*RIC*, p. 617, 37a of Diocletian) with the nummus 56a (*RIC*, p. 620; Plate 33, 20) dated in *RIC* to A.D. 302/3; similarly for Galerius the argenteus no. 40a (*RIC*, p. 617) with the nummus 57b (*RIC*, p. 620; Plate 33, 21) dated in the same way. Going on to the last argentei, 43a (*RIC*, p. 618) of Constantius Caesar corresponds excellently with the nummus 59a (*RIC*, p. 621; Plate 33, 22) of A.D. 304/5. This in my view is the date to be accorded to the last argentei of the first tetrarchy, the time of the *vicennalia* of the Augusti, and

<sup>37</sup> Four at sacrifice A.D. 294/5; four turrets A.D. 295/6, and three turrets A.D. 296–98.

<sup>38</sup> *RIC*, pp. 486–87, 501–2 (Serdica and Thesalonica).

not the time of the Persian victory. The dates of the Alexandrian argentei should be adjusted correspondingly.

With regard to the argentei of the camp gate type issued at Nicomedia, it seems clear, as I have pointed out above, that the beginning of the silver coinage at this mint was later than at Heraclea and Cyzicus. The coin portraiture suggests it was contemporaneous with the rough small-size aurei issued at the mint (*RIC*, p. 554, no. 5a; Plate 33, 25), and the same type of portrait prevails in the first argentei of the camp gate type (*RIC*, p. 556, nos. 22a–b; 22a: Plate 33, 26) with small masonry and without a star above the archway.<sup>39</sup> A.D. 297/8 would seem a plausible date for this issue (depending on how we date the rebellion of Domitius Domitianus). It should be noted that the reverse variety without star above the archway was not struck at Thessalonica; that mint started coining the subsequent reverse variety with star.

The Nicomedian issues of argentei of the camp gate type with four turrets were prolific and varied greatly in portraiture and execution of the camp gate. As the obverse heads grow larger with the passage of time, so the masonry of the camp gate gradually assumes a simpler structure; and we end up, not with fine masonry, but with a camp gate designed with five “stories.” The last coin in this series (*Münzen und Medaillen* 17, 2–4 Dec. 1957, 591) shows a portrait (of Constantius Caesar, not published in *RIC*) which comes very close to the heavy and broad portraits of the first issue of nummi at Nicomedia in A.D. 302 (*RIC*, p. 556, nos. 27b, 28a: Plate 33, 23–24).<sup>40</sup> I therefore submit, without being able to substantiate my thesis in detail, that, for roughly

<sup>39</sup> See the aureus, *RIC*, p. 554, 5a (Plate 33, 25), and the argenteus, *RIC*, p. 556, 22a, both at the ANS.

<sup>40</sup> The date of the start of the *aes* coinage of Nicomedia has been a matter of dispute for a long time. Otto Voetter of Vienna favored a late start in the early fourth century, but Pink (above, n. 22), p. 27, and later Sutherland in *RIC*, pp. 543–44, preferred a date about A.D. 294. This solution is definitely excluded by the evidence of the Horaion hoard, see A. Romiopoulou and I. Touratsoglou Θησαυρός Φολλίς τῆς Α' τετραρχίας ἐξ Ὡραίου Δυτ. Θράκης (*N. Ξάνθης*), *ArchEphemeris* 1970, pp. 47–65. The burial date seems to be ca. 305, all coins having been struck within the time of the first tetrarchy. The hoard has not more than 5 nummi of Nicomedia against 59 of Siscia, 52 of Thessalonica, 584 of Heraclea, 113 of Cyzicus and 47 of Antioch. See also my “explanatory” comment C to Table 1 below. For a correct dating of this series, see Callu, *Genio* (above, n. 18), pp. 55–56, 117.

the period A.D. 297/8–302 silver coinage in the east was concentrated in Nicomedia until Antioch took over and introduced the type with three turrets. The scarcity of the coins surviving gives little more than a hint of this development, the single stages of which are very hard to identify.

Excepting Nicomedia, the “four turret” type was issued at Thessalonica, a case already mentioned, and Siscia. Particularly at Siscia, where the coin production appears to have been continuous, it is natural to assume that coining started at the same time as at Nicomedia. The initiation of the “three turret” type should, however, be ascribed to the east (ruled in person by the maximus augustus Diocletian); Antioch would consequently have given the signal (if in A.D. 302); again, if the date coincides with Diocletian’s visit to Rome for the *vicennialia* A.D. 303, Rome may have set the pattern. A study of the portraiture of the vicennial issues in gold and silver ought to decide this problem; in the present context it is peripheral.

I conclude my scrutiny of the silver coinage of the first tetrarchy with a chart (Table 1) surveying the major issues of argentei. To the chart I have appended some explanatory comments which, among other things, indicate the difficulties in reconstructing the silver coinage in such a formalistic and schematic way. Certain special issues of Carthage and the Italian mints have been marked in the chart to give yet another instance of regional cohesion and individualism in the planning of the coinage.

#### *Comments*

A. There are obvious dangers connected with the presentation of the tetrarchic silver coinage in this simplified and schematic way. The reason for taking the risk is the advantage of bringing home the overriding fact, established by careful analysis of the coinages of the individual mints, that a succession of three major reverse types covered the lifetime of the first tetrarchy. The type “camp gate with four turrets” seems to have appeared in A.D. 297/8, the “camp gate with three turrets” in A.D. 302/3. This dispels the idea that argentei were mainly issued in the early years after Diocletian’s reform (see *RIC*, pp. 73–87, and particularly for the east, diagrams on pp. 57, 67) and

TABLE 1  
Issues of Argentei of the First Tetrarchy

	Four at sacrifice	293	×	×	×	×	FEL	ADVENT	Carthage	Sicilia	Serdica	Hercatela	Nicomedia	Cyzicus	Antioch	Alexandria
Trier		294	×	×	×											
		295	×	×												
		296	×	×												
		297	298	299	300	301	302	303	304	305						
Camp gate with four turrets																
Camp gate with three turrets																

dissolves the notion that no silver coins were issued in the east after the publication of the Prices Edict in A.D. 301.

B. It is a well-known fact that the tetrarchic argentei are very scarce except for the types and mints represented in the Sišak hoard. For other types and mints it is very difficult to establish long coherent sequences of coins anchored to unequivocal chronological criteria; for the 11–12 years of the first tetrarchy, when such chronological landmarks are notoriously scarce, a comparison of the portraits with the imperial images of the *aes* coinage offers the best way out. Under these conditions it is very difficult to assess the duration of a mark, of an issue, and to decide whether a mint was working continuously or not (as, for instance, Nicomedia according to the Table appears to do from A.D. 296 to 302). We can only state that we have a wide range of both obverse and reverse varieties, that the earliest camp gate coins have portraits similar to the “four at sacrifice” images, and that the last portraits closely resemble the portraits of the gold coinage and of the earliest Nicomedian nummi, which have to be assigned to ca. A.D. 302. (For closely related early Nicomedian portraits in gold and silver, see, for instance, *RIC*, p. 554, no. 5a [Plate 33, 25]; *RIC*, p. 555, no. 20 and p. 556, no. 22, are quite different from the imperial images of the earliest nummi, see p. 556, no. 27b [Plate 32, 13], a portrait much closer to the portraits of the *vota aurei* of A.D. 303/4, pp. 554–55, nos. 13–16, or even to the aurei of the second tetrarchy, pp. 557–58, nos. 31–38, than to the earliest gold coins of the mint such as no. 5a.)

Nicomedia was mentioned simply as one instance of the difficulties of assessing the duration of single issues; other cases will not be specifically mentioned here with the exception of Trier, whose argentei according to *RIC*, pp. 177–78, were issued until A.D. 300/1. I have not tested this case, which has been constructed on stylistic criteria (*RIC*, pp. 145–46), but I can conceive of two solutions: limiting the time span of the issues to the years A.D. 294–98, or accepting that Trier in comparative isolation continued issuing the same type regardless of the behavior of other mints. I prefer the former solution which, however, has to be checked in the light of the development of the portraiture of the nummi. (Note that Sutherland reports, *RIC*, p. 205, n. 1, an argenteus of the type “four at sacrifice” with the obverse of Constantius augustus, but regards it as irregular.)

C. The endeavor to define the periods of striking in calendar years is, of course, very crude. This becomes particularly apparent in the summing up of the issues of Thessalonica and Serdica, when the former mint appears to discontinue production when the latter starts. The prevailing view (see *RIC*, pp. 501–8, 486–90, respectively) is that this happened about A.D. 302/3, but Thessalonica, in fact, struck the type "camp gate with four turrets" in several marks before coining was transferred to Serdica.

#### KEY TO PLATES

All coins illustrated are in the ANS collection. Reverse breaks have been recorded for the argentei only.

#### PLATE 32

<i>Coin No.</i>	<i>Metal</i>	<i>Mint</i>	<i>RIC 6</i>	<i>Rev. Legend</i>	<i>Rev. Campgate</i>	<i>Obv. Portrait</i>
1	Æ	Siscia	32a	VIRTVS-MILITVM	8 turrets	Diocletian
2	"	"	32b	"	"	Maximian
3	"	"	43a	"	"	Diocletian
4	"	"	43b	"	"	Maximian
5	"	"	37a	VICTORI-A SARMAT	"	Diocletian
6	"	"	38a	"	"	Constantius
7	"	"	38b	"	"	Galerius
8	"	"	47a	VIRTVS M-ILITVM	"	Constantius
9	"	"	52b	VIRTVS-MILITVM	6 turrets	Maximian
10	"	Trier	117b	"	"	Galerius
11	"	Heraclea	6	VICTORIA-SARMAT	"	Diocletian
12	"	Nicomedia	18	PROVIDEN-TIAE AVGG	"	Constantius
13	"	"	20	VIRTVTI-MILITVM	"	Galerius
14	"	Alexandria	13a	VIRTVS-MILITVM	3 turrets	Constantius
15	Æ	"	18a	GENIO POPVLI ROMANI	—	Diocletian
16	"	"	18b	"	—	Maximian

#### PLATE 33

17	Æ	Alexandria	20	GENIO POPVLI ROMANI	—	Dom. Domitianus
18	"	"	21a	"	—	Constantius
19	"	"	21b	"	—	Galerius
20	"	Antioch	56a	"	—	Diocletian
21	"	"	57b	"	—	Galerius
22	"	"	59a	"	—	Constantius
23	"	Nicomedia	27b	"	—	Maximian
24	"	"	28a	"	—	Constantius
25	A/	"	5a	IOVI CONSERVATORI	—	Diocletian
26	Æ	"	22a	VICTORIAE SARMATICAЕ	4 turrets	"

# ENGRAVED GEMS IN THE COLLECTION OF THE AMERICAN NUMISMATIC SOCIETY: I. ANCIENT MAGICAL AMULETS

(PLATES 34-40)

FRANCES M. SCHWARTZ  
JAMES H. SCHWARTZ

The American Numismatic Society possesses 529 ancient engraved gems; it is our intention to publish them in a series of articles. The largest part of the collection, 303 gems, was deposited at the Society shortly after the death of Samuel Duffield Osborne in 1917. Osborne, born in Brooklyn in 1858, received a law degree from Columbia University in 1879. He practiced law and was assistant and then acting secretary of the Department of City Works in Brooklyn until 1894. He was a prolific writer, producing several historical novels with ancient settings and editing Livy's *Roman History* and Macaulay's *Lays of Ancient Rome* for Appleton's Library of the World's Great Books. In 1912 he published *Engraved Gems*.<sup>1</sup> This large volume provided a popular but authoritative history of gem engraving from the Minoan period to modern times, and was extensively illustrated with examples from various museums, from his own collection, and from the collections of his friends.

<sup>1</sup> The following titles are cited repeatedly by author's name only:

- D. Osborne, *Engraved Gems* (New York, 1912).  
C. Bonner, *Studies in Magical Amulets, Chiefly Graeco-Egyptian* (Ann Arbor, 1950).  
A. Delatte and P. Derchain, *Les Intailles magiques gréco-égyptiennes* (Paris, 1964).  
E. R. Goodenough, *Jewish Symbols in the Greco Roman Period*, 13 vols. (New York, 1953-1968). Unless otherwise stated, the citation is to vol. 2. Illustrations are in vol. 3.  
L. Ginzberg, *The Legends of the Jews*, 7 vols. (Philadelphia, 1909).  
E. A. W. Budge, *The Gods of the Egyptians*, 2 vols. (London, 1904).  
A. Piankoff and N. Rambova, eds., *Mythological Papyri: Texts* (New York, 1957).

The remaining 226 gems were left to the Society by E. T. Newell. They were only a part of his large collection of ancient engraved stones. Some of the Newell collection has been published previously by von der Osten<sup>2</sup> and by Bonner.

Engraved gems were collected avidly in antiquity; ancient stones were prized in the Middle Ages.<sup>3</sup> At first an avocation of princes, popes and kings in the Renaissance, gem collecting became pandemic by the eighteenth century with the excavations of Pompeii and Herculaneum and the classical revival, and this resulted in the production of a large number of forgeries. Interest gradually waned during the nineteenth century, but, with some exceptions (notably King),<sup>4</sup> collectors' tastes remained primarily classical.

We have chosen to publish first a group of gems from the late Roman period, known as Gnostic, Abraxas or Basilidian.<sup>5</sup> In addition to the ANS stones we shall also publish a number of the same type from our private collection, which includes examples not represented at the ANS. Probably as a result of a general interest in astrology, alchemy and other occult sciences, these gems enjoyed an enormous vogue in the early years of the seventeenth century.<sup>6</sup> With the classical revival they went out of fashion, and were still considered unimportant by Furtwängler, who had them moved from the Berlin Antiquarium to the Department of Egyptology. This attitude has considerably delayed publication of gems of this type; very few appeared in *Antiken Gemmen*, Walters, Marshall and Richter.<sup>7</sup>

<sup>2</sup> H. H. von der Osten, *Ancient Oriental Seals in the Collection of Mr. Edward T. Newell* (Chicago, 1934), hereafter von der Osten.

<sup>3</sup> J. Seznec, *The Survival of the Pagan Gods* (New York, 1953), pp. 54–56; G. M. A. Richter, *Engraved Gems of the Greeks and the Etruscans* (New York, 1968), pp. 20–21; M. Henig, *A Corpus of Roman Engraved Gemstones from British Sites* (Oxford, 1974), pp. 196–204.

<sup>4</sup> C. W. King, *The Gnostics and their Remains* (London, 1887).

<sup>5</sup> See King (above, n. 4), pp. 215–302, 432–48.

<sup>6</sup> W. Shumaker, *The Occult Sciences in the Renaissance* (Berkeley, 1972); C. Bonner, "Amulets Chiefly in the British Museum," *Hesperia* 1951, pp. 301–45 (this reference p. 314); A. A. Barb, "Diva Matrix," *Journal of the Warburg and Courtauld Institutes* (London, 1953), pp. 193–238.

<sup>7</sup> A. Furtwängler, *Die antiken Gemmen: Geschichte der Steinschneidekunst im klassischen Altertum* (Leipzig/Berlin, 1900); H. B. Walters, *Catalogue of the Engraved*

Bonner published *Studies in Magical Amulets*, his magisterial work on magical gems, in 1950, using what he considered representative examples from many collections. A substantial number of those illustrated were then in Newell's private collection, and some of these are published again here. Bonner chose not to publish all examples available to him since this book was the work of his last years and he felt it was too difficult a task for him to produce a comprehensive catalogue of all ancient magical amulets. In addition, he wrote that full publication "would not be justified because the commonest types are repeated in many scores of specimens, often with the slightest of variation" (p. viii). Finally, reflecting the still prevailing taste for the classical, he believed that magical gems had little artistic value. He thus neglected a number of Newell's specimens and all of Osborne's collection, which were available to him (p. xi). With the important exception of Delatte and Derchain's publication of the complete collections of the Bibliothèque Nationale and the Louvre, no major museum collection has been published despite ever-increasing interest in Graeco-Roman magic and gnosticism.<sup>8</sup>

Magical gems were only one form in which an intense upsurge of irrationality was expressed in late antiquity. Unlike magical papyri and magical writings on ceramics and metals (primarily lead and silver), which had already enjoyed a long tradition, gems with recognizably magical engraving began to appear in the first and second centuries A.D. in Egypt, Palestine and Syria, and were carried throughout the

*Gems and Cameos, Greek, Etruscan and Roman, in the British Museum* (London, 1926); F. H. Marshall, *Catalogue of the Finger Rings, Greek, Etruscan, and Roman, in the Departments of Antiquities, British Museum* (Oxford, 1907); G. M. A. Richter, *Catalogue of Engraved Gems: Greek, Etruscan, and Roman* (Rome, 1956).

<sup>8</sup> See, for example, Goodenough; E. R. Dodds, *Pagan and Christian in an Age of Anxiety* (Cambridge, 1965); M. Smith, *Clement of Alexandria and a Secret Gospel of Mark* (Cambridge, Mass., 1975); J. Hull, *Hellenistic Magic and the Synoptic Tradition* (London, 1974); *Nag Hammadi Library in English*, ed. J. M. Robinson (New York, 1978); M. Smith, *Jesus the Magician* (San Francisco, 1978).

There have been several critical reviews of Delatte and Derchain; among them, H. Seyrig in *Syria* 1965, pp. 409-12; M. Smith in *AJA* 1967, pp. 417-19; and A. A. Barb in *Gnomon* 1969, pp. 298-307, should be consulted for corrections of Delatte and Derchain's numerous errors and for important new information on magical amulets.

empire.<sup>9</sup> They were not obviously derived from the amulets commonly found in mummy wrappings, which are essentially small statues, but arose instead from the Graeco-Roman signet, which in turn was indirectly derived from the Egyptian scarab stone. As a class they are characterized by a common iconography largely derived from a solarized Egyptian pantheon with inscriptions almost always in Greek to be read directly rather than in the impression. Even though they are written in Greek letters, words are often transliterations of Hebrew and Aramaic names of God and angels. Newly invented names, sometimes formed by the technique of gematria, which was later to be used extensively by the Cabalists, also appear throughout gnostic writings. Persian influences have also been detected (Bonner, chap. 2).

Although we cannot be certain, Goodenough was probably correct in maintaining that many of these gems are Jewish (Goodenough, pp. 153–295; vol. 12, pp. 50–63). Ancient authors refer to Jewish magicians.<sup>10</sup> Accusations of sorcery were never meant to be complimentary; therefore it is difficult to assess the accuracy of the charge because of the hostility against the Jews which became prominent within the Empire during the first century.<sup>11</sup> Moreover, no group of people freely admits to the practice of magic. Nevertheless, it is likely that the Jews were important in the production of these gems. Jews formed a social and cultural continuum linking Persia, Palestine, and Egypt, and Jews were a predominant artisan class in the geographical areas where the gems were produced.

There are many references to amulets and amulet-making in the Talmud.<sup>12</sup> In addition, much of this magical tradition survived in the

<sup>9</sup> Henig (above, n. 3); G. Sena Chiesa, *Gemme del Museo Nazionale di Aquileia* (Aquileia 1966), hereafter *Aquileia*; G. Sena Chiesa, *Gemme di Luni* (Rome, 1978); A. Hamburger, "Gems from Caesarea Maritima," *'Atiqot* 1968, pp. 1–37.

<sup>10</sup> See, for example, Pliny, *HN* 30.11; Justin Martyr, *Dialogue with Trypho* 85.3; M. Simon, *Verus Israel*, 2nd ed. (Paris, 1964).

<sup>11</sup> M. Stern, "The Jews in Greek and Latin Literature," in *The Jewish People in the First Century*, 2, eds. S. Safrai and M. Stern (Assen, 1976), pp. 1101–59.

<sup>12</sup> Summarized by T. Schrire, *Hebrew Amulets* (London, 1966), pp. 12–19. Talmudic references are listed by Hull (above, n. 8), p. 151, n. 42. See also *The Jewish Encyclopedia* (New York, 1905), s.v. "Magic" (Blau).

Cabala and in later Jewish magical practice.<sup>13</sup> It is also not surprising that the iconography of the gems is not specifically Jewish, since one of Goodenough's least debatable conclusions is that the Jews of the Graeco-Roman period borrowed most of the images which they used from other peoples.

The majority of these amulets were apotropaic in intent, and therefore might have escaped rabbinic condemnation. They are engraved with spells to protect the bearer, some from all forms of evil, and others from misfortune wrought by particular demonic forces. Bonner (pp. 51–94) recognized that many of the gems were used to avert specific medical conditions—diseases of the stomach and eyes, gynecological disorders, colic and sciatica. In certain respects, the gem stone itself can be considered the pharmacological vehicle for administering a spell.<sup>14</sup> In particular instances (see catalogue numbers 13–15 and 57) engraved stones of a specified type are ingredients in magical procedures which have survived in papyri or in other literary forms. Because of this pharmacological aspect, the character of the stone on which a particular type was cut does not usually vary. Thus the anguipede is almost always engraved on a dark stone; Chnoubis on translucent, greenish and milky stones; the lizard on a mottled stone; and Solomon the cavalier and the reaper on black stones. This specific use of particular stones is in accord with Pliny's attribution of medical powers to various gems (*HN* 36 and 37).

Even though there is evidence that some of the types were described in specific magical procedures, it is unlikely that the majority of these amulets were used in so elaborate a manner. Once established as protective or helpful in a particular situation, amulets could have been produced in large numbers without the necessity for the actual presence of a magician. It is possible that most of these amulets were self-ad-

<sup>13</sup> G. S. Scholem, *Jewish Gnosticism, Merkabah Mysticism, and Talmudic Tradition*, 2nd ed. (New York, 1965); J. Trachtenberg, *Jewish Magic and Superstition* (New York, 1939).

<sup>14</sup> F. Lexa, *La Magie dans l'Égypte antique*, 1 (Paris, 1925), pp. 66–68, provides an insightful discussion of various vehicles for the administration of magical spells. An example from Pharaonic Egypt of a spell engraved on stone is the common heart scarab bearing a portion of the Book of the Dead (*The Book of the Dead or Going Forth by Day*, trans. T. G. Allen [Chicago, 1974], p. 40).

ministered, like modern patent medicines. It is difficult to believe that many men wishing to be lucky in love would not routinely wear a ring engraved with Harpocrates sitting on a lotus and inscribed *Aβραστχ*, although they might well neglect to follow all the other procedures recommended in the bilingual papyrus in the British Museum.<sup>15</sup> Degradation of some of the types might be explained by serial copying without reference to the original detailed magical procedure.

## CATALOGUE

In the catalogue which follows, gems formerly in the Newell collection are designated ETN. A Bonner number indicates that the gem was published under that number in *Studies in Magical Amulets*. A gem noted as ANS is part of the Osborne accession. An Osborne number refers to the plate in *Engraved Gems* on which that gem appears. The gems in our private collection are noted as Schwartz.

Each entry in the catalogue is followed by a list of gems in other collections. Although many examples exist of a given type, these particular gems are cited because they are most similar in some important feature to the gem in this collection.

The gems were photographed directly, with the exceptions of nos. 29 and 33 which are illustrated with photographs of casts. All the gems, including nos. 29 and 33, are shown as the observer would see them. Their dimensions can be determined from the plates, since they are shown actual size.

The larger side of a gem is designated *a*, the smaller *b*. When the *a* side alone is described the *b* side is not engraved. Gems with unusual shapes are described specifically.

When an inscription occupies more than one line the divisions between lines are indicated by virgules (/). Even though words are often run together on the gems, we have separated them to make their sense more apparent.

<sup>15</sup> H. I. Bell, A. D. Nock, and H. Thompson, "Magical Texts from a Bilingual Papyrus in the British Museum," *Proceedings of the British Academy* 17 (London, 1931), pp. 235-87; this reference, pp. 252, 255.

## 1. SOLAR POWERS

A. *The Anguipede*

The cock-headed, snake-legged figure, dressed in Roman military costume of the third to fourth century (Delatte and Derchain, p. 23) and holding the whip of Helios in one hand and a shield (often inscribed IAΩ) in the other, is an image which occurs with great frequency on these amulets. Strictly speaking, it is not represented elsewhere. It is clearly a composite. Its separate elements are familiar, and their histories have been used in a number of recent attempts to interpret the origin and meaning of the figure.<sup>16</sup>

The classification of this entire group of amulets as "Abraxas" gems, still used by some museums, results from a nineteenth century idea that the figure is a representation of Abraxas, a common misspelling of *Abrasax*, a magical name which frequently appears with the anguipede<sup>17</sup> as well as in magical papyri and gnostic texts.<sup>18</sup> *Abrasax* is an isopsephic term for 365, the annual period of the sun and the total number of aeons in the gnostic system of Basilides; *Abrasax* was the ruler of all the Basilidean heavens. By similar reasoning, since the name IAΩ also appears in association with the anguipede with great frequency, the figure was thought to represent Iao, a magical power who is also invoked in the papyri, incantation bowls and gnostic texts, and who can ultimately be identified with Yahweh, the God of the Jews (Bonner, p. 126; Goodenough, pp. 251–52). Bonner cautions that the anguipede can appear without being labeled either *Abrasax* or IAΩ, and therefore these may not identify the demon but merely be names used as apotropaic devices (pp. 134–35).

<sup>16</sup> Bonner, chap. 9; M. P. Nilsson, "The Anguipede of the Magical Amulets," *Harvard Theological Review* 44 (Cambridge, Mass., 1951), pp. 61–64; Goodenough, pp. 245–58; A. A. Barb, "Abraxas-Studien," in *Hommages à Waldemar Deonna*, Collection Latomus 28 (Brussels, 1957), pp. 76–80.

<sup>17</sup> King (above, n. 4), pp. 226–65.

<sup>18</sup> *Nag Hammadi* (above, n. 8), p. 478, s.v. "Abrasax." On two gems in the British Museum the name is spelled Abraxas (ABPAZAC on no. G315 and ABPA ΞAC on no. G375). Hereafter British Museum gems will be designated as BM. The numbers are those in the typescript catalogue of Betty Burn (1935). A catalogue by Morton Smith is in preparation.

Each of the three iconographic regions of the anguipede can be explained, but their presence together in one figure seems absurd. The least difficult iconographic element is the military costume. In all media (for example, terracotta, bronze, gold, and stone) there are numerous examples from Egypt and Syria of various Egyptian and oriental gods dressed as the Roman emperor. In addition to the sovereign status indicated, the image so dressed is properly outfitted for effective contest against evil.

In the early Empire, use of the round shield (*clipeus*) had diminished, being restricted to select units of the Roman infantry.<sup>19</sup> In coinage of the later Empire, *clipei* continue to appear on trophies, and to be carried by Mars, Victory, Roma, and Minerva, whose manner of holding the shield most resembles that of the anguipede.<sup>20</sup> As often occurs on gems with the anguipede, shields carried by soldiers were inscribed with talismans.<sup>21</sup> A particularly apposite literary example is the description of the shields of the four towers in the army of the Sons of Light: on each is written the name of an archangel.<sup>22</sup>

No Egyptian deity was represented as a chicken. The domestic fowl was introduced into the Mediterranean world comparatively late. Bonner (pp. 125–26) calls attention to the Persian reverence for the rooster's matutinal activity, a reverence which was presumably carried into the Hellenistic world by the Jews during the Persian period, and preserved in a variety of writings. "Great among singers of praise [of the Lord] are the birds, and greatest among them is the cock."<sup>23</sup> The importance of animals which herald the rising sun is echoed elsewhere in this series of amulets (see below: Harpocrates), and possibly derives in part from the idea that "demons, as the corresponding beings

<sup>19</sup> Josephus, *BJ* 3.95; Y. Yadin, *The Scroll of the War of the Sons of Light against the Sons of Darkness* (Oxford, 1962), pp. 121–23, 181.

<sup>20</sup> See, for example, Plate 34 A (*BMCRE* 2, Domitian 103).

<sup>21</sup> Yadin (above, n. 19), p. 119.

<sup>22</sup> Yadin (above, n. 19), pp. 187–88, 302.

<sup>23</sup> Ginzberg, vol. 1, p. 44; see also R. H. Charles, *The Apocrypha and Pseudepigrapha of the Old Testament in English* (Oxford, 1913), vol. 2: 3 Baruch 7, n. 194; Talmudic commentary on Job 38:36, in *The Anchor Bible: Job*, trans. M. H. Pope (New York, 1965), p. 255, n. 36.

among Arabs [jinns] and Assyrians, carried on their work in the night. The moment the cock crew their work was gone.”<sup>24</sup>

Despite the Agathodaemon and the solar snake (Goodenough, pp. 247–48), which are relevant to Chnoubis, it seems likely that any creature with *two snakes rampant* as legs signified the Hellenistic representation of a giant to the ancient mind. Giants, like chickens, were apparently introduced quite late into the Mediterranean world from the orient. Rose<sup>25</sup> cites analogies between the Greek gigantomachies and various oriental myths of conflicts between gods and monsters, a pertinent example of which would be the battle between the serpent Apep, a personification of the darkest hour of the night, and the sun god Ra, who must triumph over him nightly in order to rise again in the morning.<sup>26</sup> The Greek myth which seems most pertinent to the anguipede is that of the largest giant, Typhon, who chased the Olympians to Egypt where they hid in the form of animals (Ovid, *Met.* 5.321). Typhon was the Greek name for Set, the brother and enemy of Osiris.

Bonner summarizes his discussion of the significance of the anguipede with the idea that “the triune monstrosity . . . is less likely to have arisen through a natural spontaneous syncretism than to have been imagined, or deliberately invented, by a single teacher or a compact school of theosophists, whom some may prefer to call Hellenized magi or pagan ‘gnostics’” (p. 135). Nilsson suggests that the anguipede is (proceeding from head to feet) the “omnipotent cosmic God, Lord of the Sun, the Light, the Heaven, of Human Life, and of the Underworld, comprising the entire Universe of popular belief.”<sup>27</sup> Barb synthesizes the disparate iconographic components in a novel fashion by suggesting that the figure of the anguipede is a kind of ideogram which represents some Jewish speculation on the nature of Adam.<sup>28</sup> The First Man was sometimes represented as a warrior and sometimes as a worm. It is possible, too, that there was a pun in the Hebrew of this period on the words *giant*, *soldier* and *rooster*.

<sup>24</sup> T. W. Davies, *Magic, Divination, and Demonology among the Hebrews and Their Neighbors* (London, 1898; repr. New York, 1969), p. 112.

<sup>25</sup> H. J. Rose, *A Handbook of Greek Mythology* (London, 1953), p. 57.

<sup>26</sup> See, for example, Budge, 1, pp. 324–27.

<sup>27</sup> Nilsson (above, n. 16), p. 64.

<sup>28</sup> Barb (above, n. 16).

In accord with Barb's idea that the figure represents a pun in Hebrew, we suggest that the anguipede denotes the archangel Gabriel (גֶּבְּרִיאֵל) whose name is properly translated "God is mighty," "Man of God," or "Hero of God," but which could be read as "Rooster (נָבָר) of God." Gabriel is closely associated with Yahweh; the anguipede is almost invariably associated with the name Iao. In addition, Gabriel is the angel of war (Origen, *De princ.* 1.8.1), which would explain the anguipede's shield and military dress. Enoch 20:8 says that Gabriel is set over the serpents. The whip, a solar attribute, might be a syncretistic reminder that Gabriel is the herald of light and, sometimes, the angel of fire (Ginzberg, vol. 5, p. 70).

A possible survival of the anguipede is the trio of bird-headed figures Sanvei, Sansenvei and Semangelof, the three protective angels depicted in the Book of Raziel published in Amsterdam in 1701.<sup>29</sup>

For gems of this type, see Bonner 162–78; Delatte and Derchain 1–34; Kassel<sup>30</sup> 127–37; Goodenough 1078–1109.

### 1. ANS/ETN (Bonner 162)

*a:* Creature with cock's head, human torso and arms, snakes for legs. Chest is bare; figure wears military kilt. In r. hand, whip, its lash extended over the head. On l. arm, round shield. Each snake leg has one coil. Around, I A ω.

*b:* A/BPA/CA Ξ.

Dark green and red jasper.

Bonner 163, 167. Delatte and Derchain 8, 13, 15, 16, 28.

### 2. ANS/ETN

*a:* Cock-headed anguipede wearing military kilt and cuirass, with whiplash hanging down (its most usual position), and shield shown

from side. Snake legs have no coils. On shield:  (= ω ?)

Beneath,  (= OHHω?)

<sup>29</sup> See E. A. W. Budge, *Amulets and Talismans* (Oxford, 1930), p. 225.

<sup>30</sup> V. Scherf, P. Gercke and P. Zazoff, *Antike Gemmen in deutschen Sammlungen*, vol. 3: *Braunschweig, Göttingen, Kassel* (Wiesbaden, 1970), hereafter referred to by city.

b: IAH / IEH / IOV / ΩHI / HW.

Dark brown jasper.

Bonner 170. Delatte and Derchain 35, 511.

3. ANS/Osborne (pl. 29, 20)

a: Cock-headed anguipede wearing cuirass and military kilt, holding spear pointing downward in r. hand. No inscription on shield. Snake legs have no coils. Beneath r. arm, Λ; beneath shield, ΡΣ; beneath legs, IAΩ.

b: Harpocrates seated r. on lotus with two buds, holding whip in r. hand; l. hand points to nose.

Dark green and red jasper.

It is unusual for the anguipede to hold anything other than a whip in its r. hand. But see Delatte and Derchain 31 (sword) and Kassel 133 (vertical staff). On BM G54 the anguipede holds a torch.

Harpocrates should be shown with his finger to his mouth, not to his nose. Perhaps this is merely an engraver's error. It is uncertain why Harpocrates was originally portrayed with his finger in or near his mouth; taken together with the scalplock, this attitude might simply have indicated his youth. In the Graeco-Roman period, however, it certainly connoted secrecy and mystery (Plutarch, *De Iside* 68.1378C; Pliny, *HN* 33.3).

For these two subjects occurring on the same gem, see Delatte and Derchain 134; Goodenough 1100, 1101; Bonner, "Miscellany"<sup>31</sup> no. 39 (on this gem Harpocrates also points to his nose); BM G153.

4. ANS/ETN (Bonner 175)

a: Cock-headed anguipede wearing military kilt, chlamys hanging from r. shoulder, holding whip and shield. Snake legs have no coils. Below, ithyphallic cynocephalus ape l., orant, solar disc on its head. To its l. and r., scarabs. Beneath, ΙΑΟ (= IAO). Around, IAΩNOV ΒΑΞΑΟΝΟV ΚΟΓ ΑΩΙΑΙΑΩV ΦΟΝΒΑN.

b: 

Dark green and red jasper.

For cynocephalus ape, see Bonner 244–48, Delatte and Derchain 198–200.

<sup>31</sup> C. Bonner, "A Miscellany of Engraved Stones," *Hesperia* 1954, pp. 138–57.

**5. Schwartz**

a: Cock-headed anguipede holding whip and small shield of peculiar shape (misunderstanding by engraver?). Each snake leg has one coil. In field: above head,  $\blacktriangle$ ; to right of head,  $\blacksquare$ ; to left of hips,  $E$ ; to right of hips,  $\blacksquare$ ; beneath legs,  $\text{IA}\omega$ .

b: Horizontally,  $\blacktriangle \blacksquare E \blacksquare$ , the same four magical signs as on side

a. Beneath these,  $\text{IA}\omega$ .

Dark green jasper with red spots.

For similar magical signs, see Bonner 72, 388. A green jasper gem in the Spencer George Perceval Bequest (1922) at the Fitzwilliam Museum (no. 328 in B. K. Burn's typescript catalogue [1928]) shows the anguipede holding a shield with this shape; similar magical signs also appear in the field. This unusual shield appears on a gem excavated at Marion in 1960. It is illustrated on pl. 33, no. 2, of A. Pierides, *Jewellery in the Cyprus Museum* (Nicosia, 1971), inv. no. 1960/XI-28/1.

**6. Schwartz**

a: Cock-headed anguipede wearing military kilt, holding whip and shield. Snake legs have no coils. Border of dots.

Lead, with loop.

Goodenough 1081.

*B. Variants*

**7. ANS/ETN (Bonner 187)**

a: Bird-headed man walking r. on ground line, holding wreath in r. hand, tall scepter with crescent-shaped top in l.; at l., eagle with outstretched wings.

b: [ ]AMMAXPIE (continued on bevel) PPEV /  $\Delta IANT\omega\Theta$  (Thoth?)

Brown jasper.

Bonner 262, 264, 266. Delatte and Derchain 305. Bonner (above, n. 6), no. 12. Gramatopol<sup>32</sup> 373.

<sup>32</sup> M. Gramatopol, *Les Pierres gravées du Cabinet numismatique de l'Académie Roumaine*, Collection Latomus 138 (Brussels, 1974).

## 8. ANS/ETN (Bonner 181)

a: Anguipede with lion's head (modified in form from cock's head) wearing headdress<sup>33</sup> and kilted tunic, holding whip with upflung lash in r. hand, orb in l. In fields, Ι Α ω.

b: ΛΕΟ/ΝΤΟ/ΦΗΚ/ΤΑ (render of lions).

Haematite.

Delatte and Derchain 35. The lion-headed anguipede is intermediate between the cock-headed anguipede and the lion-headed man who carries whip and orb (no. 9).

## 9. ANS/ETN (Bonner 235)

a: Lion-headed man standing facing, head l., wearing kilt. Around head, nimbus with seven triangular rays. Whip in r. hand, orb in l.

b: ΖΕΘ Α<Φ>ΟΒΕΤΩΡ / ΘΡΟ[ΨΕ] ΜΕ ω ΜΙ/ΘΡΟ ΡΟΜΦΑΩΧΙ / ΙΛΕΩC ΚE TH E/MH ΨVXH KAI Tω / EMω BIω. (Zeth [Set? or Seth?] who makes fearless, nourish me, O Mithro, spear-holder; be gracious, Lord, to me and my life.) Bonner (p. 185) renders "my goods" for "my life," a possible but unlikely translation.

Quartz (rock crystal).

Delatte and Derchain 302. Goodenough 1111. BM G502.

### C. Lion

The lion on these amulets is a solar symbol.<sup>34</sup> This characteristic is emphasized by the frequent presence in the upper field of a star and a crescent moon. In Egyptian mythology, lions guard the gates of morning and evening through which the sun god must pass.<sup>35</sup>

Each of the seven celestial bodies which the ancients called planets had a specific relationship with the 12 signs of the Zodiac. Each planet, except for the sun and the moon, dwelt in two houses, one during the day and the other at night. The sun, however, needed a mansion only

<sup>33</sup> Perhaps a clump of papyrus; see A. Gardiner, *Egyptian Grammar*, 2nd ed. (London, 1950), p. 481.

<sup>34</sup> Bonner, pp. 36, 50, 150; Delatte and Derchain, pp. 221–2. See also Goodenough, vol. 13, s.v. "lion."

<sup>35</sup> Budge, vol. 2, pp. 360–61; and see Plankoff and Rambova, pp. 29–65.

during the day: this was the Lion, a summer constellation. According to Macrobius (*Sat.* 21.16) the Lion is called the House of the Sun because a lion seems to derive its qualities from the properties of the sun.

In addition to several other religious symbols of the east,<sup>36</sup> a striding solar lion appears on the coinage of Caracalla's last two years. It is shown holding a thunderbolt in its jaws.<sup>37</sup> Similar lions occur on Alexandrian coinage of the second century.<sup>38</sup>

The lion-headed anguipede (no. 8) and the lion-headed man (no. 9) bring together the solar characteristics of the standard anguipede and the more conventional iconography of Ra-Harakhte of Leontopolis, who is specifically invoked on a stone in the Brooklyn Museum<sup>39</sup> which is similar to our no. 9. The association of lion, sun and Horus is made explicit in a passage from Horapollo:<sup>40</sup> "[The lion] has fiery eyes, and its forehead is spherical, and its mane radiates from about it in imitation of the sun. Wherefore they place lions under the throne of Horus, showing the symbol of the beast beside the god. And the sun is Horus because he rules over the hours (*ωρῶν*)."

Scholem<sup>41</sup> proposed that the lion-headed figure represents Ariel, whose name can be translated as "Lion of God" or "Light of God." Ariel has been taken to be identical with the archangel Uriel (Ginzberg, vol. 6, p. 57). Scholem's idea led to our suggestion (see p. 158 above) that the anguipede represents Gabriel, "Rooster of God." Synthesis of Ra, Horus, the archangels and Yahweh (Iao) would produce a powerful image for dispelling any magic directed against the bearer, and this seems to be the principal function of the group of amulets in sections A, B and C.

#### 10. ANS/Osborne (pl. 29, 11)

*a:* Lion l., object between forepaws. Above, star; beneath, crescent.

*b:* ΙΑΩ, palm branch above.

Dark green jasper.

<sup>36</sup> *BMCRE* 5, pp. ccvi-vii.

<sup>37</sup> See Plate 34 B (*BMCRE* 5, Caracalla 150).

<sup>38</sup> Dattari, nos. 3130, 3595, 3963.

<sup>39</sup> K. Herbert, *Greek and Latin Inscriptions in the Brooklyn Museum* (Brooklyn, 1972), no. 24. This is the same gem as Bonner 283.

<sup>40</sup> *The Hieroglyphics of Horapollo*, trans. G. Boas (New York, 1950), p. 70.

<sup>41</sup> Scholem (above, n. 13), p. 95.

Bonner 73–75. Göttingen 613. Kassel 155. Berlin<sup>42</sup> 552. Gramatopol 382–387.  
Side *b*: Bonner 160 reverse.

The object between the forepaws of the lion is often the head of its prey.

**11. ANS/ETN**

- a*: Lion r. on ground line, star above.
- b*: IAω.
- Metal (alloy?).

**12. ANS**

- a*: Lion l. on ground line, star and crescent above.
- Red jasper.

*D. Chnoubis*

Hybrids having gods' heads and snakes' bodies are familiar in Egypt. Representations of the Agathodaemon with the head of Sarapis or Isis are common in the Roman period. An unidentified lion-headed (but winged) snake appears in a mythological papyrus, and cobras with lion heads are frequently seen in friezes in royal tombs (Piankoff and Rambova, p. 129).

There is general agreement that the figure of Chnoubis derives from one of the 36 decans.<sup>43</sup> The name appears on several late Greek and Latin decanal lists, but not always in the same position. These lists correspond to some degree with earlier lists inscribed on Egyptian monuments of the Ptolemaic and Roman periods, among which there are some variations.<sup>44</sup>

<sup>42</sup> E. Zwierlein-Diehl, *Antike Gemmen in deutschen Sammlungen*, 2: *Staatliche Museen preussischer Kulturbesitz, Antikenabteilung, Berlin* (Munich, 1969).

<sup>43</sup> W. H. Roscher, *Ausführliches Lexicon der griechischen und römischen Mythologie*, 2 (Leipzig, 1897–1909), s.v. "Knouphis" (Drexler), pp. 1250–64.; Bonner, pp. 25, 54–55; Delatte and Derchain, pp. 54–7.

<sup>44</sup> O. Neugebauer and H. B. van Hoesen, *Greek Horoscopes* (Philadelphia, 1959), pp. 5–6. For a catalogue of monuments pertaining to the decans, see O. Neugebauer and R. A. Parker, *Egyptian Astronomical Texts* 3. *Decans, Planets, Constellations and Zodiacs*, 2 vols. (Providence/London, 1969). Earlier literature is cited by Bonner, Delatte and Derchain. See also A.-J. Festugière, *Corpus Hermeticum*, 3 (Paris, 1954), pp. xxxviii–lxi; C. C. McCown, *The Testament of Solomon* (Leipzig, 1922), pp. 57–59; Budge, 2, pp. 304–10.

By the 10th dynasty the Egyptians divided the ecliptic into 36 sections for the reckoning of time.<sup>45</sup> The decanal system had ceased to be useful by the twelfth century B.C., but persisted in funerary art and astrology. The zodiacal system, which originated in Mesopotamia, absorbed the decans, and by the Hellenistic period each sign of the Zodiac was divided into three periods of 10 degrees. For example, in Haephestion's list (fourth century A.D.) *χρονικός* is the third decan in Cancer, corresponding to the Egyptian *Knmt* at Edfu, and *χαρχρονικός* is the first decan in Leo, corresponding to *hry hpd knmt*.<sup>46</sup> Chnoubis seems to have acquired some of the attributes of the ram-headed god of the first cataract, Khnum, who was the creator of gods and men. He made the first egg (see no. 18) from which sprang the sun (Budge, vol. 2, p. 50).

One group of decanal lists, from which the name of Chnoubis is absent, also does not correspond in any way to the Egyptian originals. These lists appear in the various manuscripts of the Testament of Solomon and are formed for the most part from Hebrew or pseudo-Hebrew words.<sup>47</sup> They all share the contention attributed by Celsus to the Egyptians that each decan rules diseases of a certain part of the body (Origen, *Contra Celsus* 8.58). With Chnoubis, we have sound literary evidence that the amulets were to be used specifically for disorders of the upper abdomen (Bonner, pp. 54–55). Galen, who describes the testimony of others that a green stone engraved with a radiate serpent and worn as an amulet will benefit the stomach and esophagus, reports that he has found unengraved green stones equally effective (*De Simpl.* 10.19). Bonner remarks that digestive disorders were common in antiquity because of overeating (p. 51), and Goodenough retorts that, on the contrary, poor sanitation and diet were the common conditions, and were more likely to have resulted in dysentery and malnutrition (p. 263, n. 398).

Bad public health versus gluttony is probably not the issue, however, since, for the ancient Egyptians, disorders of the stomach included a

<sup>45</sup> O. Neugebauer, "The Egyptian 'Decans,'" in A. Beer, ed., *Vistas in Astronomy* 1 (London, 1955), pp. 47–51.

<sup>46</sup> Neugebauer and van Hoesen (above, n. 44), table 4. See also Neugebauer and Parker (above, n. 44), text vol., pp. 105–74.

<sup>47</sup> McCown (above, n. 44), chap. 8.

wide variety of serious diseases. In the Papyrus Ebers the translator has identified viral hepatitis, lung abcess, angina pectoris, common cold, malarial fever, bubonic plague, gastric hemorrhage, tuberculous spondylitis, appendicitis, splenomegaly due to the intestinal worm *Ankylostomum duodenale*, terminal stomach cancer and intestinal obstruction, all as diseases of the stomach.<sup>48</sup> A similar variety of diseases were also included in stomach trouble by Jews of the Roman period. In the Talmud, the Hebrew word for heart is frequently used to designate the stomach, recalling the term *καρδία* among the Greeks. In accord with this anatomical confusion, Chnoubis amulets are often heart-shaped (Bonner 80–83).

For gems of this type, see Bonner 81–98; Delatte and Derchain 52–86; Kassel 162–171.

### 13. ANS/ETN (Bonner 90)

a: The lion-headed serpent Chnoubis to l., tail in single coil, 12 linear rays around head.

b:  (Chnoubis-sign) / XNOYBIC. The large B is recut over a smaller M.

Light brown, cream and black granite (Bonner says burnt prase[ ?]).

### 14. ANS/ETN

a: Lion-headed serpent to left, tail in one coil with long protruding end; six linear rays around head.

b: XNOVMIC around .

Pale greenish-brown agate.

### 15. Schwartz

a: Lion-headed serpent to l., tail in two coils; seven linear rays around head.

b:  \*  / COPOOP / ΜΕΡΓΑΡ / ΦΡΙΟΥΡΙΓΞ.

Gray and white steatite (soapstone).

See Bonner 86 reverse and 99 reverse, and Delatte and Derchain 75, 76, 81, 306, 346, 349 for inscription.

<sup>48</sup> *The Papyrus Ebers*, trans. B. Ebbell (Copenhagen, 1937), pp. 47–56, 64.

## 16. Schwartz

Pentagonal bead, perforated vertically. On the five sides: Chnoubis; upright crocodile (?) with human legs; Anubis (?); IAω; orant or diagrammatic representation of Harpocrates on lotus.<sup>49</sup>  
Black steatite (soapstone).

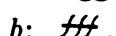
Bonner 358, 359. Goodenough 1089, 1179, 1181. Von der Osten 543, 547.

## 17. ANS

Four-sided bead. On the four sides:  ; Z; orant, with IA [ω] (the ω damaged) down left side and HAH up right side;  .  
Black serpentine, perforated vertically.

## 18. ANS

a: Egg surrounded by ΘωBAPPABAY.

b: .

Gray-brown agate.

Delatte and Derchain 484. Bonner, p. 132, n. 48: this inscription is found in three different contexts, once with a composite god (see Section 2. G. below). Delatte and Derchain 169: this inscription is found on the reverse of a gem showing a composite god.

## 2. EGYPTIAN GODS

The worship of Osiris as the great god of the dead, so prominent in Pharaonic Egypt, in the Roman period had become only a minor component of religious life. This is indicated by terracottas, small bronzes and coins, which largely represent Osiris's sister-wife, Isis, and their son Harpocrates. When Osiris appears as a mummy he represents resurrection. On no. 20 the mummy is shown facing a butterfly, which, in the Mediterranean world since Mycenaean times, symbolized the soul.<sup>50</sup>

<sup>49</sup> Morton Smith has identified the upright crocodile and the representation of Harpocrates by comparison with gems in the British Museum.

<sup>50</sup> M. P. Nilsson, *The Minoan-Mycenaean Religion and Its Survival in Greek Religion*, 2nd ed. (Lund, 1950), pp. 45–50; F. Cumont, *Recherches sur le Symbolisme Funéraire des Romains* (Paris, 1942), s.v. "papillon;" Furtwängler (above, n. 7), vol. 1, pl. 45, 48; and vol. 2, p. 220.

After the Ptolemaic period Osiris was worshipped increasingly in the form of Sarapis, a condensation of Osiris and Apis (Budge, vol. 2, pp. 195–201). The cult of Sarapis has generally been thought to have been a synthetic product devised by Ptolemy I Soter as politically suitable for both his Greek and Egyptian subjects. This idea has been questioned recently.<sup>51</sup> Whatever his origin, Sarapis was revered throughout the Empire during the Roman period. His specific attributes are displayed on no. 22: he is a bearded, Zeus-like and regal figure, wearing the modius crown on his head; at his feet sits Cerberus, the three-headed guardian of the Greek underworld. When the modius is replaced by the polos crown, the figure is identified as Hades. Similar portrayals are common on gems and coins and in terracotta.<sup>52</sup> We have classified this gem as an amulet, as did Bonner, because the figure is encircled by the ouroboros, which is the symbol of the universe, of eternity, and of recurring time. The meaning of the association seems obvious: Sarapis is Lord of the Universe.<sup>53</sup>

Innumerable monuments attest to the importance of Isis and her infant son Harpocrates (Horus) during the Roman period.<sup>54</sup> The engraving on no. 24 is reminiscent of several second century coins from Alexandria (e.g., Dattari 1751 [Hadrian]; see Plate 36, D). Coupled with the figure of the dwarf god Bes (on the reverse), who was regarded as protector of newborn children (Budge, vol. 2, p. 285), the image of the nursing goddess probably served to protect infants. The hole in the stone suggests that it was suspended over the cradle or from the neck.

<sup>51</sup> P. M. Fraser, *Ptolemaic Alexandria*, 1 (Oxford, 1972), pp. 246–76; S. K. Heyob, *The Cult of Isis among Women in the Graeco-Roman World* (Leiden, 1975), pp. 2–6.

<sup>52</sup> See Plate 35, C, Dattari 1832 (Hadrian); also *BMCRE* 5, Caracalla 96. E. Breccia, *Terrecotte Figurate Greche e Greco-Egizie del Museo di Alessandria* (Bergamo, 1934), pl. 41, 199–201; M. Mogensen, *La Glyptotheque ny Carslberg: La Collection Égyptienne* (Copenhagen, 1930), pl. 26, A202.

<sup>53</sup> See *Horapollo* (above, n. 40), I, 59, pp. 83–84: “To show a very powerful king, they draw a serpent represented as the cosmos, with its tail in its mouth and the name of the king written in the middle of the coils, thus intimating that the king rules over the cosmos.” For Hades-Sarapis as prince of demons, see H. Lewy, *Chaldean Oracles and Theurgy* (Cairo, 1956), p. 279–309.

<sup>54</sup> R. E. Witt, *Isis in the Graeco-Roman World* (Ithaca, N. Y., 1971); Heyob (above, n. 51).

Harpocrates seated on a lotus is identified with the rising sun (Plutarch, *De Iside* 11.355). According to ancient cosmological myth, the sun first emerged from the calyx of a lotus.<sup>55</sup> On no. 25 the ape is shown in adoration of the rising sun. Strikingly similar figures appear in a mythological papyrus of the 21st dynasty (Piankoff and Rambova, Scene 3, p. 73 and pl. 1) along with the inscription "adoration of Re-Horus of the Horizon." Like the rooster, the ape announces the dawn by his chattering.

The triads of animals seen on no. 26 and many other similar stones can be taken as apotropaic, since they so often include snakes, scorpions and other dangerous creatures (Delatte and Derchain, p. 108). But they include friendly animals as well. Another interpretation would be that they are equivalent to the adoring ape, and are there to indicate that all created things chant praise to the newborn sun.<sup>56</sup>

The figure on no. 27 is reminiscent of the adoring ape, but its interpretation is uncertain.

#### A. Osiris

##### 19. ANS/ETN (Bonner 13)

a: Mummy facing, feet to r.; at l., A/B/PA/CAΞ; at r., M/Ω/CH/N; beneath, ZOZZOZ.

b: CEN / CEN ΓΕΝ / BAPAN/ ΓΗC (corrupt for BAP<ΦΑΡ>AN-ΓΗC — see Bonner, p. 201).

Haematite.

Goodenough 1135. Delatte and Derchain 92, 93. Munich<sup>57</sup> 2905. This gem appears to invoke powers of four major religions: Osiris, Abrasax, Moses, and Zoroaster (ZOZZOZ). Pliny states that magic arose in Persia with Zoroaster, but also credits Moses with the origin of Jewish magic (*HN* 30.2).<sup>58</sup>

<sup>55</sup> Iamblichus (*De Mysteriis* 7.1-2) interprets the mystical significance of sun, lotus and solar bark.

<sup>56</sup> For a similar concept, see Ps. 65:14, and Ginzberg, vol. 1, pp. 42–46, and notes in vol. 5.

<sup>57</sup> E. Brandt, A. Krug, W. Gercke and E. Schmidt, *Antike Gemmen in deutschen Sammlungen*, vol. 1, pt. 3: *Staatliche Münzsammlung München* (Munich, 1972), hereafter referred to as Munich.

<sup>58</sup> For a recent discussion of the image of Moses in the Graeco-Roman period, see J. G. Gager, *Moses in Greco-Roman Paganism* (Nashville, 1972), especially chap. 4, "Moses and Magic," pp. 134–61.

## 20. ANS 16/ETN (Bonner 386)

*a*: Mummy r., facing butterfly with star above head.  
Dark green jasper with red flecks.

## 21. Schwartz/Osborne (pl. 29, 28)

*a*: Mummy of Osiris lying on the back of a lion walking l. on ground line. Behind, Anubis standing, arms raised. To l. and r., Isis and Nephthys with forearms raised.  
*b*: BIBIOYC / AEHIOVW / IAΩ.  
Dark green basalt.

Compare Bonner 10.

The mummification of Osiris by Anubis, the jackal- or dog-headed god of death, is a scene familiar from Pharaonic and Ptolemaic monuments; in the late period this mummification scene commonly appears on funerary stelae.<sup>59</sup>

BIBIOYC may be for BIBΛIOC, possibly an epithet of Osiris or Isis. According to Plutarch (*De Iside* 15–18, 50) the chest containing the fragments of Osiris's body was carried down the Nile into the Mediterranean and across to Phoenician Byblos. There Isis found her husband's dismembered corpse, and brought it back to Egypt for mummification. Burial of Osiris at Byblos and an associated Syrian rite are also mentioned in Lucian's *De Syria Dea* 7. Alternatively, BIBIOYC might be a magical name, which Lexa has read as "l'âme des âmes."<sup>60</sup>

*B. Sarapis*

## 22. ANS/ETN (Bonner 18)

*a*: Ouroboros enclosing Sarapis with modius crown seated l., r. hand extended over Cerberus, l. resting on tall scepter.  
Dark green and red jasper.

Bonner 17. Delatte and Derchain 100. Goodenough 1196. Dattari 1832 (Hadrian).

<sup>59</sup> Budge, vol. 2, pp. 131–38; C. Desroches-Noblecourt, *Egyptian Wall Paintings from Tombs and Temples* (United Nations Educational, Scientific and Cultural Organization, 1954), pl. 26, from the Ramesside tomb of Amennakht; Piankoff and Rambova, nos. 17, 22, 29; *Ancient Art*, Myers/Adams 8, 10 Oct. 1974, 135.

<sup>60</sup> Lexa (above, n. 14), p. 118.

## 23. ANS/Osborne (pl. 29, 15)

- a*: Uraeus snake forming large coil on right and left; wears double feather crown on head. Around, EIC Z[EV]C CAPATCI (one Zeus Sarapis).  
Carnelian.

Bonner 23 reverse (cobra with *alef* crown, symbol of Isis). Bonner 255 reverse. Munich 2322. Goodenough 1167. For inscription see Bonner, p. 175. For the agathodaemon depicted with the head of Sarapis, see Dattari 1827 (Hadrian); Delatte and Derchain 223, 403; and Munich 2663 (which shows a snake with the head of Isis as well).

*C. Isis*

## 24. Schwartz

- a*: Isis seated on throne, about to suckle Harpocrates. Her r. hand is at her breast. On back of throne, bird. To l. and r., ΛΟΑ ΘΘΑΒ. (This inscription usually appears as ΑΘΘΑ ΒΑΘΘΑ.)  
*b*: Bes standing facing. To r. and l. TALBIΔ BEPETE. (This inscription usually appears as TACBEP BEPETEC.)

Black basalt. Pierced.

Petrie<sup>61</sup> 135c. Hamburg<sup>62</sup> 54. Delatte and Derchain 102, 103. Bonner 29–32. Dattari 1751 (Hadrian).

*D. Harpocrates: The Young Sun*

See also no. 3. For gems of this type, see Bonner 190–210; Delatte and Derchain 132–54; Kassel 146–51. For an Alexandrian drachm of this type see Plate 36, E (Macrinus).

## 25. ANS/ETN (Bonner 265)

- a*: Harpocrates seated l. on lotus, knees drawn up, r. hand pointing to mouth, l. holding flail. He has scalplock, and wears disc with ray above forehead; around head, a nimbus with six linear rays and letters ΖΑΓΟVPH. Facing him, ithyphallic cynocephalus

<sup>61</sup> W. M. F. Petrie, *Amulets* (London, 1914).

<sup>62</sup> M. Schlüter, G. Platz-Horster and P. Zazoff, *Antike Gemmen in deutschen Sammlungen*, vol. 4: *Hannover, Kestner-Museum; Hamburg, Museum für Kunst und Gewerbe* (Wiesbaden, 1975), hereafter identified by city.

ape with paws raised, disc on head, star above. Between their heads, crescent. Above, three scarabs, three lions l. At l. edge (broken), parts of three hawks with discs on heads, and crocodile. To r. of lions, part of an animal.

*b:* The four-ram-headed god Khnum, with elaborate *atef* crown, standing facing, wearing collar and kilt, holding *was* sceptre (symbolizing dominion)<sup>63</sup> in r. hand and *ankh* in l. Inscription around partly lost: IAEΩΒΑΦΡΕΝΕΜΟΒΝΟ[.....]NEΡΦΑ ΒΩΕΑΙ (palindrome) followed by ΔΟC ΜΟ[Ι XAPIN].

*Bevel:* Vowels, in threes, and the beginning of CΘΟΜ[ ], a long formula. The bases of the letters are toward side *a*.

See Delatte and Derchain index for the complete inscriptions.  
Haematite.

For Harpocrates adored by triads of animals, see Delatte and Derchain 147–54, Bonner 203–10; by a cynocephalus ape, Delatte and Derchain 158, 159, Bonner 194, 197, Kassel 146–48.

For identification of the figure on side *b* as Khnum, see Budge, vol. 2, p. 51; but see Delatte and Derchain 228 for a god which is similar but which has six rams' heads. Delatte and Derchain (p. 173) suggest that the image on their gem may derive from the god of the four winds or from the ram of Mendes, both of which are endowed with four rams' heads. See also Bonner 266.

## 26. Schwartz

*a:* Harpocrates seated l. on lotus, r. hand to lips and l. holding flail. Lotus has two buds and arises from solar bark. Above, three scarabs; to l. and r., symmetrically, three birds, three goats, one scorpion (that on the r. is chipped off).

Beneath boat, two snakes and crocodile.

*b:* AEH / IOVΩ; beneath, , possibly a monogram. The cutting of the reverse, particularly of the monogram, is much more amateurish than that of the obverse, and was probably done later.

Haematite.

Previously published by Swift.<sup>64</sup> Delatte and Derchain 147–54. Bonner 205–9, 391.

<sup>63</sup> Gardiner (above, n. 33), pp. 509, 559.

<sup>64</sup> R. H. Swift, "Gnostic Intagli," *Bulletin of the Southern California Academy of Sciences* (Los Angeles, 1931), pp. 94–99.

## 27. Schwartz

*a:* Tailless cynocephalus with uraeus serpent to l. on its head, squatting l. on ground line. Palm branch runs behind its head, butt behind neck, frond emerging in front of muzzle. Six-pointed star below chin; another behind neck.

*b:* ΗΛΙ / AMBPΩ.

Multicolored yellow jasper.

Delatte and Derchain 435.

Bonner (p. 199), referring to Bell, Nock and Thompson's commentary (above, n. 15, p. 247) on a demotic magical name, suggests that this inscription is an invocation of the sun god, Re. The inscription might be understood as an abbreviation of ΗΛΙΟC AMBPOTOC (immortal sun). Similar inscriptions are found on reverses of several yellow or orange jasper amulets engraved with cynocephalus apes; see, for example, BM G518 and G574.

E. Scarab: *The Sun*

## 28. ANS/Osborne (pl. 29, 25)

*a:* Scarab surrounded by ouroboros.

*b:* IAΩ.

Dark green jasper with red spots.

Delatte and Derchain 48–51. Bonner 12, 251. Bonner (above, n. 6), nos. 2, 47.

The well known scarab beetle is the symbol of Khepera, the self-produced father of the gods and creator of all things; it was identified with the sun throughout Egyptian history (Budge, vol. 1, pp. 355–58; vol. 2, pp. 379–82). The scarab enclosed by an ouroboros was also a common image.

## 29. Schwartz

*a:* Two-headed dragon: snake head l., wearing crown of upper and lower Egypt, its tongue extended; hawk head r., wearing the same crown. On dragon's back, winged scarab.

*b:* IAPBAΘ/ΑΓΡ (cut over a Λ or an Α) ΑΜΜ/ΗΦΙΒΑΛΟΧ/ΛΗΜΗΩ.  
Rose quartz.

Delatte and Derchain 404, 405. Bonner (above, n. 6), no. 46. Inscription: Bonner 210; Delatte and Derchain 294, 404.

Gems with similar two-headed dragons have been interpreted by Delatte and Derchain as representing the creation of the universe (pp. 281–82). In this interpretation the dragon symbolizes the primordial ocean. On one of the gems published by Delatte and Derchain (no. 404) there is a winged frog

(a symbol of life) above the dragon; on the other (no. 405) it is an unidentified creature which sits on the monster's back. If Delatte and Derchain are correct, the winged scarab which appears on our no. 29 is most appropriate, since it symbolizes at the same time the newly created sun and its creator, Khepera. The conformation of the monster calls to mind the solar bark, as it appears on other amulets; see Braunschweig 189 for a representation of Harpocrates seated on a solar bark which has a dog's or jackal's head at one end and a lion's head at the other. Sijpesteijn<sup>65</sup> illustrates a gem showing a boat with a radiate human head at each end, one male and one female. Above the boat is a winged scarab on which rests an ouroboros containing the figure of Harpocrates seated on a lotus. Representations of the scarab in the solar bark appear as well in the mythological papyri (Piankoff and Rambova, pls. 5, 19, 29, 30).

It is interesting to note that our no. 29 and the gems published by Delatte and Derchain are all engraved on light-colored quartz.

#### *F. Anubis*

##### 30. ANS/ETN (Bonner 365)

- a: Anubis standing l., in kilted tunic and boots. Branch or schematic crown above head. In r. hand, upright dagger; in l., situla. Beneath, OAX or OΔX.
- b: ωΑΟΜΛΝΔΔΡΗ (Bonner reads this as ωΡΟΜΑΝΔΑΡΗ).
- c: Lion running l., star before, crescent above.
- d: ΒΑΡΗ ΓωΡΗΧΒΧ.

Haematite; spindle-shaped stone. Weight 4.6125 g. A. A. Barb suggests that this stone was once a Babylonian weight, already ancient when engraved in the Roman period (personal communication).

Bonner (above, n. 6), no. 10. Delatte and Derchain 114.

#### *G. The Composite God*

There is general agreement that the composite god, which Bonner calls Pantheos (pp. 156–60) and Delatte and Derchain call the god with the head of Bes (pp. 126–31), was derived from a fantastic image, prevalent in the late Pharaonic period, formed by combining figures of several gods with features of various noxious animals. Because of their fright-

<sup>65</sup> P. J. Sijpesteijn, "Magical and Semi-magical Gems in a Private Collection," *Bulletin van de Antieke Beschaving* (Utrecht/Leiden, 1974), pp. 246–50, no. 12.

ening appearance, these common statuettes and reliefs were intended for protection against snakes, scorpions and other harmful beasts.<sup>66</sup> Similar composite deities sometimes also appear on the closely related cippi of Horus, which show Harpocrates standing triumphant on a crocodile, and which were also made in the late Pharaonic and Ptolemaic periods. These stelae are covered with gods, demons, animals, and magical spells against bites and stings, and were set up in homes and gardens.<sup>67</sup> The best example of this type of monument is the Metternich Stele of the second century B.C. (Budge, vol. 2, chap. 16), but they occur in great numbers, and vary considerably in size. There are many stones small enough to serve as personal talismans.

The gems from the Roman period have many of the characteristics of the earlier cippi. They were engraved in a dark stone, usually black, or in obsidian. In addition to the awesome composite god, they are often crowded with magical spells. It is unlikely, however, that these amulets were made for protection only against the bites and stings of animals. A recently published hieratic magical papyrus of the Late Period (Brooklyn Museum 47.218.156) contains two vignettes of the composite god,<sup>68</sup> and demands of the god that Pharaon (for whom the papyrus was written) be saved from all things evil and deadly, all fear and all terror. The god's awesome and mysterious appearance will protect Pharaon against all enemies, male and female. Nothing malevolent will be able to maintain its hold upon him.<sup>69</sup> These ideas are echoed by the inscription in the *tabula ansata* on each side of our gem no. 34.

For gems of this type, see Bonner 253–61; Delatte and Derchain 166–80.

### 31. ANS/Osborne (pl. 29, 24)

a: Composite god standing facing on double ground line, legs to r., wearing *alef* crown; three projections on each side of the face, representing animals' heads. God has four wings, no arms, and

<sup>66</sup> G. Steindorff, *Catalogue of the Egyptian Sculpture in the Walters Art Gallery* (Baltimore, 1946), pp. 157–58.

<sup>67</sup> Steindorff (above, n. 66), pp. 163–70.

<sup>68</sup> S. Sauneron, *Le Papyrus Magique Illustré de Brooklyn* (Brooklyn, 1970), pp. 11–16.

<sup>69</sup> Sauneron (above, n. 68), pp. 18–19.

holds three *was* scepters; bird's tail to l. Figure is ithyphallic.  
**b:** Characters, lightly engraved (not lost by wear). Down right side ΙΑΙΙ. Up from center of bottom ΙΙ. Up left side ΙΝΥΓΙ.  
 Dark green jasper with red flecks.

Bonner 256. Possibly not ancient.

**32. ANS**

- a:** Composite god standing facing, head and feet turned to l. Has jackal head, beetle body, four wings. Two arms above the wings hold bird-topped sceptres. Two outstretched arms below wings, bird tail to r. In upper fields, crescent to l., eight-pointed star to r. In lower l. field remains of an H; other letters probably lost. In lower right field, beginning below wing, M/VΨ/ΖΖ. The god stands on a cartouche formed by an ouroboros, within which ΒΑΙΧ...  
**b:** ΛΕΟΛΥ/Μ ΣΕΜΕ/ΣΙΛΑΜ ΧΑ/ΡΓΗΛ ΛΧΙΑ/ΝΑ Ο Μ<Ε>/ΓΑ{Λ} Ζ/Α]ΔΟΝΕ ΛΡ / .ΕΤΩΠΑΓ / ΑΝ ΧΑΡΙ/Ν ΠΡΟΣ Π/ΑΝ[ΤΕϹ]. Haematite.

Bonner 66. Bonner (above, n. 6), no. 40. For inscription, see Delatte and Derchain 175 and index.

**33. ANS/ETN**

- a:** Composite god with bearded human face standing facing on ouroboros. Horizontal winged thunderbolt on head. Two pairs of wings, tail to r. Horizontal flail in l. hand; in r., vertical (bird-topped?) staff.

Glass.

**34. Schwartz**

- a:** Composite god standing on back of lion walking l. The god's body, which is human, is bare-chested, wears kilt, and appears to be shown from behind. Bird tail to r., two pairs of wings. Two arms below wings hold long vertical scepters. God wears bulbous headdress on top of which is abbreviation of *hemhem* crown. Four short horizontal lines protrude from each side of head. Lion stands on *tabula ansata* within which: ΦΥΛΑΞΩΝ ΑΠΟ / ΠΑΝΤΟC ΚΑΚ / ΟV TON ΦΟΡ<OVNTA>. Around, covering the entire field of the gem:

. L., reading upward	R., reading downward
Outer line: IAΩ?] CABΑΩ ΜΙΧΑΗΛ ΑHUA	AMAPI IAI HIH A
2nd line: CEMECΙΔΑM COVMAPTA	PAPAN ΓΟΟΕΙΡΙ
3rd line: ABΛΑΝΑΘΑΝΑΛΒΑC	AKPAMAXAMA<PI>
4th line: A COYMAP<TA> N	COVMAPTA
5th line: TAANP	ΔCEMEI
6th line:	II (or O) CI

Outside l. staff: AM	
Inside l. staff: IOA	
Between legs: NA / IA / KI	
Above bird tail: O	Below bird tail: ΛO / ωI
Beneath lion: MI I	
To l. of <i>tabula ansata</i> : MI	To r. of <i>tabula ansata</i> , IA (or Λ)

Below *tabula ansata*: OVINOΙΔΝΙΞΙ / COVΛΧΛΜΛΟΟ / ΛΙΧ  
ΔΝΙV

*Bevel*: Three lines of inscription, bases of letters towards side *a*.  
 CEMECΙΔΑM Ψ COVMAPTA COVMAPTA ΑΔΩΝΑΙ A[. .C]A  
 BAΩ ABPACAE / COYMAPTA ΛΕΛΛΥ[...]ΛΜΛCP (cut over  
 E) CE Γ ΑKRAMAXAMAPI AKPA[.]AE (or Θ) [...] ΨΑKPA CΛI /  
 CEMECΙΔΑ{Ψ}M...ΛΓ TΑΝΕΟΥΜΑΡΙΔΠΛΙVNΜΕΝΓΑ..CI...  
 ΕCIΛΛΥ!Y

*b*: Two figures, each holding staff in outer arm, touching central figure; all stand on *tabula ansata*; to l. and r., eight-pointed stars. Within *tabula ansata*, ΦVΛΑΙON ΑΠ/O ΠΙΑΝΤΟC ΚΑ/K  
 OV TON ΦO<POVNTA> Beneath, IAΩ CABΑΩ ABPACAE  
 A/ΔΩΝΑΙ COVMAPTA EA / AΨ ΑKRAMAXAPEI / ΔCE  
 COVMAPTA K / ΙΛΕΛΑ ΨΑKPA CECE/ΓΕΝΒΑΡΦΑΡΑΝΓ/HC  
 ΑΔ ωΝΑΙ ΛΑΙ / COVMAPTA H / IAEA ΛΙΨCI/MEI

Obsidian.

Goodenough 1123. Delatte and Derchain 177, 312.

The Kelsey Museum has an almost identical amulet (Mich. 26070) which is unpublished. There are also four similar gems in the British Museum (BM G10, G11, G205, G385).

The inscription in the *tabulae ansatae* means "protect the bearer from all evil." The long inscriptions in the fields and on the bevel are unusual for gems of this kind because they contain many recognizable magical words and names.

Almost all of these are Jewish. Scholem has shown convincingly that *akrama-chamarei*, *sensen barpharanges* and possibly *ablanathanalba* are Aramaic in origin. The origin and meaning of the magic word COVMAPTA, which occurs nine times on this gem, are not known. The word occasionally appears in magical papyri.<sup>70</sup>

The three figures on side b probably represent Castor and Pollux accompanying a goddess. Chapouthier<sup>71</sup> has catalogued examples of this triad, most of which can be dated to the second and third centuries A.D. The identification is suggested by the similarity of the two outer figures to depictions of the Dioscuri from this period (see, for example, the Alexandrian bronze drachms of Trajan [Dattari 844] and Hadrian [Dattari 1682; also our Plate 37, F] and a tetradrachm of Septimius Severus [Dattari 3984]). As on many of the monuments in Chapouthier's catalogue, the goddess has no recognizable attributes; often, however, several specific goddesses can be identified, most commonly Helen. Others are Selene, Cybele, Hera, Artemis, Hekate, Astarte, Demeter, Nemesis, and Isis. Identification of the group on the gem as Chapouthier's triad is tentative.

#### *H. God on an Animal*

The meaning of these amulets is uncertain. We have catalogued them here because the god stands on an animal, as does Harpocrates on the cippi. Delatte and Derchain (pp. 157–60) identify the figure with Sarapis primarily because of two gems (their nos. 206, 207), neither of which has a convincingly authentic appearance.

#### 35. Schwartz

*a:* Man wearing cloak over shoulders and tunic with train, apparently holding whip, standing r. on back of horned animal r.

<sup>70</sup> Scholem (above, n. 13), pp. 94–100. COVMAPTA also appears in a Greek formula inserted in a mediaeval Latin charm to stop bleeding; see A. A. Barb, "Die Blutsegen von Fulda und London," in *Festschrift für Gerhard Eis* (Stuttgart, 1968), p. 488.

<sup>71</sup> F. Chapouthier, *Les Dioscures au Service d'une Déesse* (Paris, 1935), pp. 21–123. If not mounted or leading horses, the Dioscuri are typically shown holding long staves; besides two *piloi*, two eight-pointed stars are their most common symbol (pp. 105–15). Chapouthier (pp. 335–36) suggests that the function of the triad is protective: the twins and the goddess, "dieux sauveurs," stand guard and provide assistance. Cumont (above, n. 50), chap. 1, pp. 91–93, has shown that in the Roman period the Dioscuri represented the two revolving halves of the sky, and therefore eternal time. It is thus possible that the central figure is not a goddess, but represents the bearer of the amulet, who is to be guided and protected throughout eternity.

(perhaps a crocodile or dragon). To r., snake in field; down l. side, from top, .  
Black basalt.

36. ANS/ETN (Bonner 381)

a: Crocodile l.; on its back, a facing head, above which, an amphora. To l. and r., rooster. Above crocodile's tail, bucranium. To l., man fleeing from crocodile; beneath him, IB, half on white and half on brown. In fields, O Π K B (the third sign is not a letter but K). Bone (?). Bonner calls this gem sardonyx in two layers, brown over white. It is probably modern.

*I. Snake-Headed God*

37. ANS/ETN (Bonner 263)

a: At r., figure with head and neck of snake, wearing military kilt and boots, holding whip and tall scepter; at l., another figure, apparently similar (the stone is badly chipped). Between, worshipper l. lifting hand to lips in gesture of proskynesis. To l. and r. of worshipper, eight-pointed star. Between l. figure and worshipper, ☐; between right figure and worshipper, ☒.

b: Six-line inscription, the top and bottom lines effaced.

\*ΙΙΟΥΩΥΘ Λ- / =Τ ΚΟΜΧΙ'ΑΟ / .ΘΓΔΘΜΧΙΙΔ / ΙΩΖΓΔΠΡΟΥΓ

Bevels: ☐☐☒☒ ☐☒☒☒ ☐☒☒☒ ☐☒☒☒

Haematite.

Goodenough 1178. Compare Delatte and Derchain 161, BM G494.

The meaning of this scene is uncertain. The central figure is engraved in the same style as the god on the crocodile in no. 35, and is similarly attired. Snake-headed deities appear frequently in representations of the underworld.<sup>72</sup> They are identified only as anonymous divinities of the nether world. On this gem these two creatures wear Roman military kilt and boots, and can be thought of as snake-headed homopedes.

<sup>72</sup> Budge, vol. 1, chap. 5, espec. pp. 204–62; Piankoff and Rambova, nos. 3, 10, 11, 12, 13, 20, 24, 26.

## 3. GREEK GODS

The Olympians are rarely shown on these amulets, and only those gods whose attributes allow them to be identified with popular Egyptian deities are at all common. An example not represented in this collection is Hermes, who as psychopomp is equivalent to Anubis and as messenger or mediator between gods and men is equivalent to Thoth. Herakles is the subject of an important series of amulets specific for colic (Bonner, pp. 62–64; Delatte and Derchain, pp. 202–6) which is also not represented in this collection.

Aesklepios, who usually appears with the attributes of Sarapis (Delatte and Derchain pp. 178–79), is clearly shown on no. 38 as the sun. Macrobius (*Sat.* 20.1–5) points out that Aesklepios, the son of Apollo, is the healing power that comes from the essence of the sun; moreover, the hero is depicted with a snake because serpents each year shed the skin of old age and renew their youth, as does the sun.

Syncretism was a prominent feature of Isiac worship in the Roman world.<sup>73</sup> Her followers claimed that Isis “Myrionymus” (with many names) was adored throughout the world. They said that, in Eleusis, she was the ancient goddess Demeter; elsewhere, Hekate; and elsewhere Nemesis (Appuleius, *Met* 11.5). Hekate is a familiar figure in magic.<sup>74</sup> In the fifth book of the *Pistis Sophia*, she is one of the five great punitive rulers established by Jesus to reign over the 360 rulers who did not have faith in the Mystery of the Light.<sup>75</sup>

The significance of Nemesis on no. 42 is uncertain. Following Pliny (*HN* 28.5), we suggest that the gem is an amulet against the evil eye: “... we meet the evil eye by a special attitude of prayer, some invoking the Greek Nemesis, for which purpose there is an image [simulacrum] of the goddess on the Capitol.”

Occasionally, as on no. 43, one side of a gem is engraved with an image which is not magical. Since both sides of a stone need not have

<sup>73</sup> Witt (above, n. 54), espec. chap. 9. For the Graeco-Roman tradition of equating Isis with all the great goddesses see also V. F. Vanderlip, *The Four Greek Hymns of Isidorus and the Cult of Isis* (Toronto, 1972), pp. 17–18, 27, 91–92.

<sup>74</sup> Delatte and Derchain, pp. 189–192; Lewy (above, n. 53), pp. 83–98, 240–48.

<sup>75</sup> G. R. S. Mead, *Pistis Sophia*, rev. ed. (London, 1921), pp. 304–5.

been cut at the same time, an ordinary gem may have been converted at a later time to an amulet. Although Nike is the eschatological symbol of the soul's triumph over death in Roman funerary art,<sup>76</sup> she also had other, more straightforward meanings.

*A. Helios as Asklepios*

38. ANS/ETN (Bonner 67)

*a:* Helios as Asklepios: radiate bearded male figure leaning on snake-entwined staff and holding whip; above head, T or sketchy polos crown; in upper l. and r. fields, crescent and star; to r., small animal looking up and back.

*b:* ΣΑΡ / ω(?) / ΜΥ.

Yellow and white agate. Possibly not ancient.

*B. Demeter*

39. ANS/ETN (Bonner 26)

*a:* Isis as Demeter striding l., wearing modius on head and carrying lighted torch. Beneath feet, Persephone rises from beneath the ground carrying two stalks of grain in each hand.

Haematite.

*Aquileia* 1549.

*C. Hekate*

40. ANS/Osborne (pl. 29, 16)

*a:* Snake coiled above basket; to r., worshipper kneels on ground line, hands upraised.

*b:* Hekate, depicted as single figure with tripartite body; three heads, each wearing kalathos. Six arms; the top two and bottom two hold uncertain objects. In fields, IA ω.

*Bevel:* [A]BPACAX CABAWA IA ω (corruption of CABAWΘ IA ω). The bases of the letters are toward side *a*.

Yellow jasper.

<sup>76</sup> See Cumont (above, n. 50), s.v. "Victoire;" Goodenough, vol. 7, pp. 135–71, and vol. 13, s.v. "Victory."

Delatte and Derchain 280 reverse. Goodenough 1061. Bonner 63, 64, 66. Hannover 1706–8. Göttingen 608. Snake: Munich 2601b. Richter (above, n. 7) 529.

**41. ANS/ETN**

*a*: Hekate, shown as three separate women walking l. in unison. Each head wears kalathos. The figure on l. holds whip; the central figure holds short scepter over shoulder; the rightmost figure holds torch.

Carnelian.

Delatte and Derchain 254bis. Lewis<sup>77</sup> 345. Boston<sup>78</sup> 138 (p. 123).

**D. Nemesis**

**42. ANS**

*a*: At l., Nemesis standing facing r.; before her, wheel and small worshipper with arm raised. At r., griffin on top of column. Inscription: ΘΕΑ ΝΕΜ (the goddess Nemesis).

*b*: Lion l.; around, Λ BOΗΙΘΙ (help). The initial Λ is the continuation of the inscription on side *a*.

Carnelian.

Bonner 57. Munich 2891 (ΝΕΜΕCI BOΗΙ).

**E. Nike**

**43. ANS**

*a*: Winged Nike standing l. holding wreath and palmbranch.

*b*: ΑΒΡΑΚΑ/Ξ.

Bone, colored in three layers.

#### 4. JEWISH HEROES AND ARCHANGELS

**A. Abraham and Isaac**

**44. ANS/ETN (Bonner 343; Goodenough 1039)**

*a*: The sacrifice of Isaac. Abraham stands at center, holding knife in r. hand with r. arm across body. At r., Isaac walks toward

<sup>77</sup> M. Henig, *The Lewis Collection of Gemstones* (Oxford, 1975).

<sup>78</sup> *Romans and Barbarians* (exhibition catalogue, Museum of Fine Arts, Boston, 1976), p. 123.

horned altar. Abraham looks back at ram, to l., standing under tree, above which is hand of God pointing downward. To r., above Isaac, 8-pointed star.

b: Four lines of Hebrew letters, between two horizontal lines.

(1)	...שׁ...	... l sh ...
(2)	בְּשָׁוֹטָאַל	s (or m) sh r w m ' m l
(3)	בְּזִזְעָלָם	' b w(?) ' l ' m
(4)	וְמַלְעָן	w(?) ' m ' i l w(?)

This inscription is mystifying. It appears to be in Hebrew, but contains three symbols which, although they resemble Hebrew letters, differ from them significantly. These are  $\aleph$ ,  $\beth$ ,  $\aleph$  =  $\aleph$ ;  $\beth$  =  $\beth$ ;  $\aleph$  =  $\aleph$ . These symbols also resemble characters in the magical alphabet (see below, section 7: INSCRIPTIONS). If they were read as Hebrew letters, the inscription would contain letters written in styles of different periods.<sup>79</sup> Despite several provocative possible partial readings, we still do not understand the inscription.<sup>80</sup>

Dark brown peridotite. Bonner calls the stone limonite. Pierced. Bonner briefly mentions the occurrence of scenes of the sacrifice of Isaac in antiquity, notably in the third-century A.D. murals at the Dura synagogue and the early sixth-century mosaics at Beth Alpha,<sup>81</sup> as well as on Christian objects. Sukenik<sup>82</sup> and Goodenough (pp. 172–88 and vol. 13, s.v. "Akedah") review this subject exhaustively. For an amulet maker, whether Jewish, Christian or pagan, the sacrifice is an obvious example of a deity's direct interference in human affairs.

<sup>79</sup> Javier Teixidor (personal communication).

<sup>80</sup> Line 2; The prince and Sammael (the angel of death; see C. D. Isbell, *Corpus of the Aramaic Incantation Bowls* [Missoula, Mont. 1975], p. 174, no. 572).

Line 3:  $\aleph\aleph$  mother

Line 4:  $\aleph\aleph$  mother; or  $\beth\aleph\aleph$  Asiel (the angel who heals; see E. Yamauchi, *Mandaic Incantation Texts* [New Haven, 1967], p. 37).

<sup>81</sup> For H. Gute's clear copies of the murals, in the Yale Art Gallery, see Goodenough, vol. 11, pl. 3. E. L. Sukenik, *The Ancient Synagogue of Beth Alpha* (Jerusalem, 1932), pl. 19.

<sup>82</sup> Sukenik (above, n. 81), pp. 40–42.

### B. Archangels

Jewish belief in four archangels is well established. Michael was the greatest of the angels (Ginzberg, vol. 7, s.v. "Michael"); the names of the other three varied during intertestamental and Rabbinic times.<sup>83</sup> Of the 39 amulets on which at least one archangel is invoked, in the collections published by Bonner and by Delatte and Derchain, 82 percent call on Michael, 15 percent on Raphael, 33 percent on Gabriel, 28 percent on Uriel (*Ουριηλ*) and 21 percent on Suriel (*Σουριηλ*). The latter pair are often invoked together; six of the eleven bearing the name of Uriel also call on Suriel.

It has been proposed that Gabriel and Uriel (Ariel) are also represented emblematically on magical gems, Gabriel as the cock-headed anguipede (see p. 158, above) and Ariel as the lion-headed anguipede (see p. 162, above). Although similar symbols involving the other archangels might be expected to have been used, we can think of no animal names that might serve as punning types for Michael or Raphael.

The names of angels continued to be used in later Hebrew amulets, where Raphael, the healer, is called upon when health is in jeopardy.<sup>84</sup> His association with medical problems presumably results from the tradition that Raphael taught Noah the pharmacological properties of plants, healed Abraham's wound caused by circumcision, and cured the thigh wound Jacob incurred when he wrestled throughout the night with his unidentified assailant (see Ginzberg, vol. 6, s.v. "Raphael," p. 399).

The meaning of no. 45 is uncertain, but the mummiform appearance of the figure in association with the name of Raphael suggests some medical significance. On the other hand, Bonner (pp. 111–12) tentatively placed this gem in the category of black magic, suggesting that the mummiform figure might be the intended victim, shown bound and helpless.

#### 45. ANS/ETN (Bonner 153)

a: Ouroboros enclosing crude mummiform figure, possibly wearing headdress with three spikes (but this appears to be part of ouro-

<sup>83</sup> Yadin (above, n. 19), pp. 229–42; G. Vermes, "The Archangel Sariel," in *Christianity, Judaism and Other Greco-Roman Cults*, pt. 3, ed. J. Neusner (Leiden, 1975), pp. 159–66.

<sup>84</sup> Schrire (above, n. 12), chap. 19.

boros). To l. ΜΙΧ/ΑΗΛ Ρ/ΑΦΑ; to r., ΗΑ (*sic*) / ΑΔΩ/ΝΑΙ Ι/ΑΩ (Michael Raphael Adonai Iao).

b:



Carnelian.

Delatte and Derchain 30, 362. A gem in the British museum (BM G285) shows an Osiris mummy wearing a three-spiked headdress.

### C. Solomon the Cavalier

King Solomon's power over demons is attested to by Josephus (*AJ* 8.45–6). In legends which first achieved literary form as the Testament of Solomon,<sup>85</sup> Solomon receives a seal from God giving him control over demons who help build the Temple in Jerusalem. This seal, which is usually mentioned on the reverse side of these amulets, has generally been thought to have been a signet ring engraved with the pentalpha (Ginzberg, vol. 6, p. 292, n. 56). But as Scholem points out, on the basis of midrashic and pseudepigraphic references, the secret name of God may be His seal.<sup>86</sup> The Jewish, Arabic and early Christian tradition of Solomon as a magician is concisely reviewed by McCown.<sup>87</sup> Solomon also figured prominently in incantations on bowls and in other Mandaic texts.<sup>88</sup>

Although the legends of Solomon are clearly Jewish in origin, the iconography of these amulets is not. Bonner (p. 210) suggests that the mounted warrior striking down an enemy is a natural symbol of victory, and calls attention to the familiar stereotype of the mounted emperor on coins and in imperial statuary.<sup>89</sup> Strikingly similar in theme is a limestone openwork relief in the Louvre showing a mounted falcon-headed Horus in military dress stabbing a crocodile at his horse's

<sup>85</sup> McCown (above, n. 44); briefly told by Ginzberg, vol. 4, p. 150.

<sup>86</sup> Scholem (above, n. 13), p. 133, n. 71.

<sup>87</sup> McCown (above, n. 44), pp. 90–104.

<sup>88</sup> Isbell (above, n. 80), p. 182; E. M. Yamauchi, *Gnostic Ethics and Mandaean Origins* (Cambridge, Mass., 1970), p. 54.

<sup>89</sup> See R. Brilliant, *Gesture and Rank in Roman Art* (New Haven, 1963), s.v. "equestrian representations," p. 236.

feet.<sup>90</sup> It should be noticed, however, that, unlike triumphant emperors on coins, the cavalier on these amulets is never dressed in military costume, and this forces us to seek an independent prototype for this figure.

Closely related to the armored imperial cavalier is the figure of the emperor hunting lion or wild boar. He is typically shown bareheaded, mounted on a rearing horse, his cloak streaming behind, usually without armor or any weapon other than a lance held in his upraised right hand, ready to strike the running quarry beneath. Several coin types bearing this image and legends involving the *virtus* of the emperor were struck during the Antonine and later periods, both at Rome and in Greek imperial coinage. Even more obviously than the imperial armored equestrian, the hunting emperor signifies the inevitability of success.<sup>91</sup>

Alternatively (or perhaps in parallel) Harpocrates is often shown as a non-combatant rider in small Egyptian terracottas of the Roman period.<sup>92</sup> A terracotta in Berlin<sup>93</sup> shows a falcon-headed and double-crowned Horus without armor, with cloak, chiton and spear, mounted on a prancing horse. No victim or quarry runs beneath. Also without armor are various rider gods of Asia Minor, including Mēn, Mithra, and Zeus Panamarios of Stratonicea.

The defeated enemy on these gems is a naked woman, an evil female demon, identified by Bonner as Lilith (p. 210). As the first wife of Adam, Lilith hated the daughters of Eve, and therefore destroyed mothers and newborn babies. Bonner suggests that these amulets, which were usually engraved on elongated ovals of black stone, most often haematite, were used to protect the young. The name of Lilith is men-

<sup>90</sup> *L'Art Copte* (exhibition catalogue, Ministère d'état Affaires Culturelles, Paris, 1964), no 7 (Inv. no. X5130). For a discussion of this iconography, see J. G. Griffiths, *The Conflict of Horus and Seth from Egyptian and Classical Sources* (Liverpool, 1960), pp. 113–15.

<sup>91</sup> For second century monuments and imperial coinage, see Brilliant (above, n. 89), pp. 131, 143; for coinage and sarcophagi of the later periods, see his pp. 184, 186–88.

<sup>92</sup> Breccia (above, n. 52), nos. 40–53, pls. 11–13; Mogensen (above, n. 52), pl. 42.

<sup>93</sup> H. Philipp, *Terrakotten aus Ägypten im Ägyptischen Museum Berlin* (Berlin, 1972), inv. no. 9685.

tioned in inscriptions on Hebrew amulets for protection of mother and child in childbed.<sup>94</sup>

On later amulets, for example, nos. 49 and 50 (and on some forgeries), the cavalier is engraved in materials other than black stone, and acquires nimbus, helmet and military dress. Bonner (p. 210) and Goodenough (pp. 227–35) imply that the early Solomon is the prototype of the armored cavalier saints, of whom the most familiar is St. George. Nevertheless, it is unlikely that the unarmored Solomon is in the direct line of the iconographic evolution of these saints. St. George, a martyr in the time of Diocletian, was said to be buried in Lydda. His legendary fight with the dragon was a later attribution derived from a pagan tradition from nearby Jaffa involving Perseus, Andromeda and the sea monster, a tradition which in turn originated in ancient Canaanite Palestine. Identification of the evil demon on the Solomon gems with Lilith may be too narrow, since several authors have seen the conflict between the hero or saint and his enemy as one form of a traditional myth of the struggle between good and evil, in which evil has taken the form variously of Tiamat, Leviathan, Apes, Set-Typhon, and the Canaanite dragon.<sup>95</sup>

For gems of this type, see Bonner 294–97; Delatte and Derchain 369–77.

#### 46. ANS/ETN (Bonner 295)

a: Youthful bare-headed rider wearing toga and boots, chlamys blowing back from shoulder, thrusting down with spear at female victim who lies beneath raised forelegs of horse. Before his face, star; above, ΣΟΛΩΜΩΝ.

b: ΣΦΡΑΓΙΣ ΘΕΟV (seal of God).

Haematite.

<sup>94</sup> Schrire (above, n. 12), pp. 51–52 and s.v. "Lilith;" M. R. Josephy, *Magic and Superstition in the Jewish Tradition* (exhibition catalogue, The Maurice Spertus Museum of Judaica, Chicago, 1975), nos. 190–200.

<sup>95</sup> D. Flusser, "Paganism in Palestine," in *The Jewish People in the First Century*, 2, ed. S. Safrai and M. Stern (Assen, 1976), pp. 1080–83. See also the preface to E. A. W. Budge, *The Martyrdom and Miracles of Saint George of Cappadocia* (London, 1888), espec. pp. xxxii–iii. A. A. Barb, "Antaura—the Mermaid and the Devil's Grandmother," *Journal of the Warburg and Courtauld Institutes* (London, 1966), pp. 1–23; Griffiths (above, n. 90), pp. 113–15, 128–30.

Delatte and Derchain 369-72. Bonner 294-97. Goodenough 1046-47. Munich 2913.

**47. ANS/ETN**

*a:* Fragment of a similar but cruder gem, on which may be seen most of rider, horse's hindquarters, and legs of victim; CO[. . . .] (surely ΣΟΛΟΜΩΝ).

*b:* [C]ΦΡ/[A] ΓΙC / [ΘΕ]Ο/V.

Haematite.

**48. Schwartz**

*a:* Similar fragment; ΣΟΛΟΜΩΝ and star are visible, as are horse's mane and victim's legs.

*b:* ΣΦΡ/ΑΓΙ/[C] ΘΕ/[O]Υ /] ↗

Shale.

**5. SAINTS**

**49. ANS/ETN (Bonner 319)**

*a:* Rider saint with nimbus galloping r., transfixing indistinct figure with spear, upper part of which is cross. At bottom, almond-shaped object crossed by two diagonal lines: the evil eye blinded? (Bonner).

*b:* +O / KAT/VKO (variation of the first two words of Psalm 91: Ο ΚΑΤΟΙΚΩΝ [Bonner]).

Bronze, with suspension loop.

**50. ANS/ETN (Bonner 314)**

*a:* Rider saint with nimbus riding r., spearing figure lying on ground. Lion below walking r. Inscription around: EIC ΘEOC Ο ΝΙΚΩΝ ΤΑ ΚΑΚΑ (one god who conquers evil).

*b:* Inscription consisting of a series of names of things hostile to the evil eye, some known to be apotropaic symbols, probably to be concluded: [ΣΩΣΟV] EK / [ΚΑΚΩV ?].

Bronze, with suspension loop.

Bonner 298-300, 318. For reverse inscription, see Bonner, p. 215.

The following two gems show nimbate saints as orants. Although obviously Christian in the present context, this gesture represented

respectful worship in Pharaonic art and *pietas* in Roman art.<sup>96</sup> *Pietas* was an attribute assigned to the dead in the early Christian period. These gems are stylistically reminiscent of numerous grave stelai excavated at Terenuthis in Egypt which show the deceased as an orant and which date from A.D. 250–350.<sup>97</sup>

51. ANS/ETN (Bonner 335)

- a*: Saint standing front, head l., hands raised. He seems to be rising from sarcophagus. To l. and r., cross potent.
- b*: ΑΓΙ/Ε Λ/EO/ΝΤ/Ι (Saint Leontius; martyred during the reign of Vespasian).  
Haematite.  
Gramatopol 378. Delatte and Derchain 422. BM G459: very similar type, but ΑΓΙΕ ΠΡΟΚΟΠΙ (Saint Procopius).

52. ANS/ETN

- a*: Figure with nimbus, draped, standing facing on ground line, hands raised; to l. and r., cross potent; to l. and r. of figure's feet, small animal. (Possibly Daniel between the lions.)  
Yellowish glass.

## 6. SPECIFICS

In addition to the Chnoubis gems, there are several other types of amulets known to have been used for specific ailments. Our collection lacks two important amulets of this kind, the previously-mentioned one for colic depicting Herakles (page 179), and the type with uterus and key, intended for gynecological complaints.<sup>98</sup>

### A. *The Reaper (Sciatica)*

The image of the bent body of the reaper, which is almost always engraved on a haematite oval, was a specific against the low back

<sup>96</sup> A. Grabar, *Christian Iconography, a Study of Its Origins* (Princeton, 1968), pp. 32–33; and see our Plate 39, G (Gordian III, *RIC*, vol. 4, pt. 3, p. 28, no. 129).

<sup>97</sup> Mogensen (above, n. 52), A790, A791; Herbert (above n. 39), no. 29; E. Panofsky, *Tomb Sculpture* (New York, 1964), pp. 44–45.

<sup>98</sup> Bonner, chap. 6; Delatte and Derchain, pp. 245–58; Barb (above, n. 6), pp. 193–238.

syndrome (Bonner, pp. 71–75). It is interesting to note that these amulets are too large to be worn as rings, and too soft and fragile to be mounted or holed for suspension. They are similar in shape and size to the Solomon amulets already described, and to several other types (see nos. 26, 46–48 and 51). We suggest that amulets of this size and shape, which were engraved on particularly fragile stones, were carried in a pouch by the user, whose physical activities when protection was most needed would in any case make wearing a stone of this size as a ring or lavalier inconvenient. Egyptian amulet cases are preserved from Pharaonic to comparatively recent times, although they were usually used for written charms.<sup>99</sup> The use of leather cases for carrying Hebrew amulets is attested to by Maimonides' commentary on *Shabbath* 61b–62a (*Mishneh Torah* 10:5).

As Bonner pointed out, the scene depicting the reaper is probably derived from a contemporary personification of Summer, which also appears on Alexandrian drachms of Antoninus Pius.<sup>100</sup> Cap, grain stalks, tree, and the reverse inscription are significant elements in the magical iconography, since they vary little from gem to gem.

Two intaglios in the ANS collection (nos. 55 and 56) with a similar motif are not amulets. On no. 55 the tree is absent, and there are standing stalks on both sides of the reaper; no. 56 shows a grape vine instead of a tree, and the reaper, who is bareheaded, holds the scythe in his left hand. In the impression—and these two gems, unlike amulets, were made to be seen in impression—the reaper would be right-handed. In addition, neither of these gems is engraved in haematite, and both are small enough to have been intended as ringstones.

For gems of this type, see Bonner 115–25; Delatte and Derchain 261–69.

<sup>99</sup> Petrie (above, n. 61), p. 29, nos. 131, 133.

<sup>100</sup> Bonner, pl. 22, fig. 1; Plate 39, H (Dattari 2986–89). We have recently acquired a specimen of Dattari 2989 which was pierced in antiquity, to the left and right of the reverse type. This would allow the coin to be worn flat against the body with the reaper upright. We can speculate that this coin served as an amulet, strapped flat against the aching lower back. For a further discussion of the type, see A. A. Barb, "Bois du Sang, Tantale," *Syria* 1952, pp. 271–84; this reference, p. 283, n. 7.

## 53. ANS/ETN (Bonner 121)

a: Bearded reaper bending to r., wearing tunic and cap. He has cut three stalks of grain with scythe, and there are three left standing. Behind him, tree.

b: CXI/ΩΝ (for the lower back).

Haematite.

Bonner 115–25. Delatte and Derchain 268.

## 54. ANS/ETN

a: Fragment of a similar gem, on which scythe, three stalks of grain and part of tree are visible.

b: Θ / Ξ / Ο / Κ (only one letter of each line preserved).

Haematite.

## 55. ANS/Osborne (pl. 29, 2)

a: Reaper bending to l. wearing bowl-shaped hat, and cutting two stalks; to r., one standing stalk.

Carnelian.

## 56. ANS

a: Bare-headed reaper l., cutting two stalks with scythe held in left hand; to r., grape vine.

Cream-colored and black granite.

*B. Lizard*

The lizard and its parts were important in ancient pharmacology and magic.<sup>101</sup> Gems of this kind have been shown to be part of a specific treatment for diseases of the eye, described by Pliny (*HN* 29.129–30) and by Aelian (*NA* 5.47). A blinded lizard is shut up together with a ringstone engraved with the image of a lizard, during the last half of a month (hence the crescent moon pointing downward). After nine days, the animal regains his sight, and the gem is set in a ring with the needles originally used to blind him (Bonner, pp. 69–71). Gems of this kind are usually mottled. ΠΗΡΑ (*πειρα*) on the obverse refers to

<sup>101</sup> Bell, Nock and Thompson (above, n. 15), pp. 274–79.

the sharp point used in the blinding of the lizard; KANӨE COVΛE has been read as *κανθε σ ουλε[ι]* "Eye, [the lizard] will cure you."<sup>102</sup>

### 57. Schwartz

*a*: Dorsal view of lizard, crescent (points down) above its head; above and below, to l. and r., Π H P A .

*b*: KANӨE / COVΛE.

Hornblende with almandine garnet (black with red and white veining).

Delatte and Derchain 366. Bonner 112.

### C. *Erotic*

Many of the erotic gems in the collection can be classified as variants on the theme of the quarrels of Eros and Psyche. This group of amulets might never have been identified as magical without knowledge of the Paris magical papyrus<sup>103</sup> called the "Sword of Dardanus" (Bonner, pp. 120–22; Delatte and Derchain, pp. 233–39). An elaborate method for making a woman love a man is described in this papyrus. One part of the formula is to repeat a long prayer. In order for the prayer to be effective, an engraved gem must be placed under the tongue during the recitation. The engraving is described precisely: Aphrodite is shown riding astride the back of Psyche; below the figures, Eros stands on a sphere, holding a lighted torch with which he burns Psyche. On the reverse, Psyche and Eros embrace each other.

Although a gem exists which fits this description,<sup>104</sup> there are many which do not conform to it but which contain scenes that are closely related thematically. Aphrodite is rarely shown. Usually Psyche is shown being burned or bound; she often appears without Eros. Sometimes Eros is depicted bound, without Psyche.

<sup>102</sup> A.-J. Festugière, "Amulettes magiques," *Classical Philology* 1951, p. 83.

<sup>103</sup> K. Preisendanz, *Papyri Grecae Magicae* 2 (Leipzig, 1931), IV.

<sup>104</sup> R. Mouterde, "Le Glaive de Dardanos," *Mélanges de l'Université Saint-Joseph*, 15 (Beirut 1930), pp. 51ff. C. C. Schlam, *Cupid and Psyche: Apuleius and the Monuments* (University Park, Pa., 1976) describes the iconography of Eros and Psyche from the fifth century B.C., and interprets their symbolic function during the period in which our gems were engraved; the torments of love are discussed on pp. 14–19.

An additional important iconographic element which often appears on the gems is not explained directly by reference to the "Sword of Dardanus." A statue of Nemesis as a griffin, sometimes with her wheel, is placed on top of a column to which either Psyche (no. 58) or Eros (no. 60) is bound. On no. 61 Eros sits bound in front of the statue on a plinth. These gems are inscribed with the word ΔΙΚΑΙΩΣ, "justly." These rather menacing iconographical elements seem easy to interpret, and Bonner proposed that the inscription, taken together with the symbolic allusion to Nemesis, means that as Eros has tormented the soul, so must he also be tortured. Delatte and Derchain take this idea a bit further by considering that these gems might have been involved in revenge for unrequited love. Although it is likely that these gems were derived from amulets used in specific love spells, it is possible that all of the gems in this common group may not have been used in just this way. They are almost always artistically carved on a stone suitable for a signet, and are usually without reverse inscription (as would be expected for a ringstone). We suggest that an ardent admirer might present this kind of amulet, perhaps set in a ring, to the object of his desire in order to convey the idea that he burned for her and hoped that she would reciprocate. The magic was magical thinking: since I burn for you, you *ought to* burn for me.

58. Schwartz

a: Winged Psyche, arms bound behind back, seated r. before column on which are griffin and wheel; in front of Psyche, flaming torch. To r. of griffin, ΔΙΚΑΙΩΣ.

Red jasper.

Delatte and Derchain 328.

59. ANS/ETN (Bonner 157)

a: Aphrodite standing, her legs bound with rope the end of which is held by Eros; ΠΟΘΕC (corrupt for ΠΟΘOC, desire).

Haematite.

*Aquileia* 1548. See Bonner, pp. 121–22, who had some difficulty with the iconography but cited ancient parallels from non-magical gems and wall paintings.

## 60. ANS/Osborne (pl. 29, 18)

a: Eros standing l., hands on hips, tied to column on top of which sits griffin with its paw on wheel. To left, ΔΙΚΑΙΩC.  
Dark green jasper with red flecks and veining.

Bonner 161. Berry<sup>105</sup> 130.

## 61. ANS

a: Eros, hands tied behind back, seated l. facing plinth on which is griffin with extended forepaw; plinth and griffin are partly chipped off.

Carnelian.

Furtwängler, pl. 27, 2–5.

## 7. INSCRIPTIONS

Gemstones engraved only with letters, letter-like symbols (magical signs or *χαρακτηρες*), and groups of letters or words are easy to identify as magical or amuletic, since similar inscriptions appear on stones together with images. Bonner (chaps. 13, 14) groups inscriptions into two categories: meaningful and cryptic. The inscriptions on many specimens, however, fall into both categories simultaneously. It is therefore difficult to arrange a sensible catalogue of gems engraved only with inscriptions.

Inscriptions consisting of a god's name alone are acclamations which serve to invoke the power of the god for protection against evil (Bonner, p. 174). IAω, which Diodorus Siculus identifies as the name of the God of the Jews (*Histories* 1.94), and Macrobius as that of the supreme god (*Saturnalia* 1.20), appears in a long, unintelligible inscription on no. 62. The names of Iao, Sabaoth and Michael appear on no. 63. Jesus is invoked on nos. 64, 65 and 66. Invoking the name of Jesus as a power against the evil spirits by Jewish magicians is recorded in Mark 9:38 and in Acts 19:13. He is invoked in a number of magical papyri,<sup>106</sup> and

<sup>105</sup> B. Y. Berry, *Ancient Gems from the Collection of Burton Y. Berry* (Bloomington, 1968).

<sup>106</sup> Smith, *Jesus the Magician* (above, n. 8), pp. 62–64, nn. on p. 183.

his name appears in a list of other guardian powers on an Aramaic incantation bowl.<sup>107</sup>

Whether the name IAKWB, which is engraved on no. 67, refers to the Patriarch or is the personal name of the bearer of the amulet (see no. 68) is uncertain. Greek forms of the name Jacob are recorded in Egypt.<sup>108</sup> On the other hand, there may be some support for Youtie's reading of the inscription as "Jacob, the likeness of Jahweh: his son," which uses both Hebrew and Aramaic, and which Bonner advances without much enthusiasm (p. 171). In late antiquity Abraham, Isaac and Jacob were most frequently named together as Fathers of Israel. But there is an important tradition, which may relate to the inscription on this gem, which considers Jacob the greatest of the Patriarchs.<sup>109</sup> This tradition, in part founded on Ps. 24:6, ranks Jacob with the angels, and claims that his countenance is in the Merkabah (Ginzberg, vol. 1, p. 351; p. 290, n. 134). A magical papyrus is entitled *Προσευχὴ Ιακωβ* (Prayer of Jacob).<sup>110</sup> Moreover Jacob, like Solomon, is an appropriate figure to invoke against demons. He was not afraid to fight in the darkness of the night (Ginzberg, vol. 5, p. 305, n. 247). His anonymous assailant was unable to fight after daybreak, recalling the ineffectiveness of demons after dawn.<sup>111</sup>

Gems 69–73 are inscribed with letters and magical signs which cannot be read as words (Bonner, chap. 14; Delatte and Derchain, pp. 360–61). In some instances the letters are the seven Greek vowels or voices. Vowels were intoned in the worship of Egyptian gods and in the casting of magical spells; they also constitute the music of the spheres, since each is the tone given forth by one of the seven ancient planets.<sup>112</sup> The magical signs were used in magical papyri, silver lamellae, and incantation bowls.<sup>113</sup> Often they are strikingly similar to Cabalistic

<sup>107</sup> Isbell (above, n. 80), p. 118.

<sup>108</sup> V. A. Tcherikover, A. Fuks and M. Stern, *Corpus Papyrorum Judaicarum*, 3 (Cambridge, 1964), p. 179.

<sup>109</sup> Second Isaiah; see Ginzberg, vol. 5, pp. 274–76, n. 35, for rabbinic references.

<sup>110</sup> Preisendanz (above, n. 103), XXIIb.

<sup>111</sup> For the relationship between dawn and demons, see nn. 23–24 above.

<sup>112</sup> Bonner, p. 187; and Fifth Book of *Pistis Sophia* (above, n. 75), p. 313.

<sup>113</sup> Goodenough, pp. 190–205; P. J.-B. Frey, *Corpus Inscriptionem Iudaicarum*, 1 (Rome, 1936), no. 674, pp. 485–6; W. S. McCullough, *Jewish and Mandaean Incantation Bowls in the Royal Ontario Museum* (Toronto, 1967), pp. 28–47.

distortions of Hebrew letters (Ketav Mal'akhim) used in the occult sciences of the Renaissance,<sup>114</sup> and on later Hebrew amulets.<sup>115</sup> On the gems, however, the only letters which can be recognized are Greek.

62. ANS/ETN (Bonner 287)

*a:* Ouroboros around ANOX ΙΑΩ ΠΑ/CA ΛΟΝΗ ΒΟΡΒΟ/Λ ω  
ΚΩΙΕΝΚ ΓΑΒΩΝ/ ΓΑΛΑΓΑΤΗΟΥΓ/ ΚΑΒΑΟΥΤ ΚΑΤ/ΑΔΗΘΙΕΙ.  
(I am Iao . . . let it be bound or tied up.)

Peridotite. Bonner says steatite and quartz. Tan with green veining.

63. Schwartz

Rectangular bead, pierced longitudinally. On its four sides:

ΙΑΩ; ΚΑΒΑΩΘ; ΤΞΕ\*; ΜΧΑΗΛ (*sic*).

Lead.

Bonner 361.

64. ANS/ETN

*a:* IHCO/V BOH/ΘI and palm branch. (Jesus, help.)

Gray granite.

65. ANS/ETN

*a:* IH/COV (Jesus).

Carnelian.

Munich 2900.

66. ANS/ETN

HC>/OV< (Jesus).

Black serpentine with light brown areas.

67. ANS/ETN (Bonner 275)

*a:* IA KωB / A KOVBTA / ΙΑΩ / BEPW.

Red jasper.

<sup>114</sup> For example, *Sword of Moses*, fifteenth century, formerly in the Sassoon Collection; Sotheby & Co. A. G., *Thirty-eight Highly Important Hebrew and Samaritan Manuscripts from the Collection Formed by the Late David Solomon Sassoon* (Zürich, 1975), 1. See also Budge (above, n. 29), pp. 388–404.

<sup>115</sup> For example, *Book of Raziel*, see Budge (above, n. 29), p. 229.

## 68. Schwartz

a: ↑ΘΥΘΩ//ΙΑΩ ΑΒΡΑ / ΑΗΛ ΘΘ / >Ε†

ΑΒΡΑΗΛ is to be read as one word, probably a combination of Abra(ham) and El (God).

b: ΜΑΡΚΕΛ/ΛΟC ΒΙΟC / ΙΟVΝΙΛΛ/HC (Marcellus son of Junilla).

Black rock.

Delatte and Derchain 459.

Throughout the ancient period a person is identified in magical practice by the name of his mother, presumably with the idea of leaving no loophole for the forces of evil, since *pater semper incertus*. This usage is continued in later Hebrew amulets.<sup>116</sup> Schrire quotes *Shabbath* 66b, Rashi: "All forms of incantation are performed in the name of the mother."

## 69. ANS/ETN (Bonner 293)

a: Ouroboros encircling \*

b: ΙAH ΙAH / ωIAOVI.

Carnelian.

Braunschweig 195. Goodenough 1028. Delatte and Derchain 506, 511. Kassel 204. Hamburg 84.

## 70. ANS

a: ΙAH / ΙAEI / IEΩ.

Multicolored jasper.

Bonner 170.

## 71. ANS

a: ΙΔEN / ΗΔ♦ PENNI- / IYOENY / EP♦ΔBNNI / EAΙ; beneath, two eight-pointed stars flanking

Carnelian ring, carved in one piece, broken. Probably modern.

## 72. ANS

a: Oval encircling ΚΠΙ

Carnelian. ΕΙΗ

<sup>116</sup> Schrire (above, n. 12), p. 48.

<sup>117</sup> For a discussion of these three signs and the similar ones on no. 15, see A.A. Barb's review of Delatte and Derchain (above, n. 8), pp. 301-2.

## 73. ANS/ETN

a: Ouroboros encircling



b:

The reverse inscription appears to contain the Greek transliteration of the Hebrew letters representing the Tetragrammaton: ΠΙΠΙ. Lapis lazuli.

Delatte and Derchain 465.

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## THE SOURCE FOR THE SOLIDUS ISSUED BY CONSTANTINE VII IN 945

(PLATES 41-43)

JANE TIMKEN MATTHEWS

On 27 January 945, following the exile of the two sons of Romanus Lecapenus, Stephen and Constantine, Constantine VII Porphyrogenitus found himself, at last, the sole ruler of the Eastern Roman Empire. He was almost 40 years old and had spent most of his adult life in the shadow of the usurper Romanus Lecapenus. Between 27 Jan. 945 and 6 Apr. 945, when Romanus II was crowned co-emperor, Constantine issued a solidus reflecting his new position (Plate 41, 1: *DOC* 13).<sup>1</sup>

*Obv.: +IhSXPGREX RΕGNAN TΙΨΜ* Bust of Christ facing, bearded, with cross nimbus having pellets in each arm, wearing tunic and himation, r. hand in sling of cloak raised in blessing, l. hand clasping book to breast.

*Rev.: +CONSTAN T,AVT' CRAT'b'R* Bust of Constantine facing, with long beard, wearing richly-decorated loros of modified type and crown with cross and pendilia, r. hand with globus and patriarchal cross.

Both reverse and obverse are clearly different from the coins issued by Romanus I. The reverse with the impressive bust of the mature emperor is an obvious reference to the type on coinage issued by Constantine's father Leo VI. The obverse with the bust of Christ is entirely distinct from the regular *rex regnantium* issues which, since the reign of Basil I, had contained an enthroned Christ.<sup>2</sup> Christ's right hand is

<sup>1</sup> *DOC*, vol. 3, pt. 2, pp. 535, 551 (class 13), pl. 36, 13 and part 1, pp. 168-69. Two preliminary designs for this coin are Class 11 and 12, pp. 535, 550, and pl. 36, 11-12.

<sup>2</sup> *DOC*, vol. 3, pt. 2, nos. 487-89 and pl. 30, 1-2.

held in an unusual gesture of blessing. The forefinger alone is raised while the middle finger is bent toward the thumb, followed by the ring and little fingers. The voluminous drapery of Christ's mantle sweeps across his chest and over his left arm. This arrangement of hands and drapery is also different from the bust image of Christ that had first appeared on the coins of Justinian II and was revived after iconoclasm by Michael III (Plate 41, 2: *DOC* 2).<sup>3</sup> The image on Michael's coin is a much cruder figure. Christ has no nimbus. He apparently supports the gospel from underneath although no hand is visible on the coin. And he displays the more conventional blessing gesture with both the middle and index fingers raised.

The figure of Christ that Constantine had chosen is well known. It is the Pantocrator image that appears in a great many later church cupolas, as, for example, at Daphni (Plate 41, 3: photo J. Powell).<sup>4</sup> The blessing gesture, the hand on the book, the arrangement of the drapery are identical. Other cupolas with exactly the same image are in the parecclesion of the Pammakaristos (Plate 41, 4),<sup>5</sup> the Holy Apostles at Salonika,<sup>6</sup> the cupola of the northwest chapel of the Afendiko at Mistra,<sup>7</sup> and the cupola of St. George at Staro Nagoričino.<sup>8</sup> In addition, many more cupolas contain the same figure, but with some weakening or reinterpretation of the essential details. For example, at Arta<sup>9</sup> the hand on the gospel is not so strongly articulated, at Gračani-

<sup>3</sup> *DOC*, vol. 3, pt. 1, nos. 463–64, and pl. 28, 2–3.

<sup>4</sup> G. Millet, *Le Monastère de Daphni* (Paris, 1899), fig. 48 (pre-restoration photograph).

<sup>5</sup> Photograph courtesy of Dumbarton Oaks Center for Byzantine Studies, Washington, D.C. H. Belting, C. Mango and D. Mouriki, *The Mosaics and Frescoes of St. Mary Pammakaristos (Fethiye Camii) at Istanbul* (Washington, D.C., 1978), p. 48, color photograph, pl. 1.

<sup>6</sup> A. Xyngopoulos, 'Η Ψηφιδωτή διακόσμησις τοῦ ναοῦ τῶν Ἀγίων Ἀποστόλων Θεσσαλονίκης' (Thessalonika, 1953), pl. 1.

<sup>7</sup> S. Dufrenne, *Les programmes iconographiques des églises byzantines de Mistra* (Paris, 1970), fig. 31.

<sup>8</sup> G. Millet and A. Frolov, *La peinture du moyen âge en Yougoslavie*, 3 (Paris, 1962), pl. 72, 1. The paintings are dated 1318 (see p. xvi).

<sup>9</sup> A. Orlando, 'Η Παρηγορήτισσα τῆς Αρτης' (Athens, 1963), pl. 1.

ca (Plate 42, 5: photo S. Ćurčić),<sup>10</sup> and in the narthex cupola of the Kariye Djami<sup>11</sup> the distinctive blessing gesture has disappeared, while at Boiana<sup>12</sup> Christ clasps the gospel with exactly the same strange tense arrangement of fingers, but the gospel is open rather than closed. Other reflections, to name but a few, are the cupolas of the Peribleptos at Mistra,<sup>13</sup> St. Mihailo at Lesnovo (twice),<sup>14</sup> St. Sophia at Novgorod,<sup>15</sup> the Church of the Transfiguration at Meteora<sup>16</sup> and many cupolas on Mount Athos.<sup>17</sup> Despite variations they are all clearly descendants of the image that Constantine had chosen as the inspiration for his coin in 945.

With the single exception of the mosaic in the exonarthex of Kariye Djami<sup>18</sup> all large scale replicas of this type of Christ are found in cupolas. This suggests that the prototype for these Pantocrators as well as the image on the coin was also in a cupola. This can, in fact, be demonstrated by a close examination of the figure of Christ. He clasps the book on its cover, which is an unusual way to hold a book unless the figure is

<sup>10</sup> S. Ćurčić, *Gračanica: History, Architecture and Relationship to Contemporary Palaeologan Churches* (Ph. D. diss., Institute of Fine Arts, NYU, 1975; will be published by Pennsylvania State University).

<sup>11</sup> P. Underwood, *The Kariye Djami*, 1 (New York, 1966), p. 49; vol. 2, pls. 44 and 45.

<sup>12</sup> A. Grabar, *La peinture religieuse en Bulgarie*, 1 (Paris, 1928), pp. 117–18, 150; Album, pl. 8, a. Also K. Mijatov, *Wandmalerei in Bojana* (Sofia, 1961), fig. 27.

<sup>13</sup> G. Millet, *Monuments byzantins de Mitsra* (Paris, 1910), pl. 108; also D. Mouriki, *Αἱ Βιβλικαὶ προεικόνισεις τῆς Παναγίας ἐις τὸν τρούλλον τῆς Περιβλέπτου τοῦ Μυστρᾶ*, *A Delt*, vol. 25, pt. A (1970), pp. 217–51.

<sup>14</sup> G. Millet and A. Frolov (above, n. 8), vol. 4 (1966), pl. 11, 24 and pl. 26, 54.

<sup>15</sup> The same blessing gesture of the Pantocrator at the church of St. Sophia of Novgorod, now destroyed and known only in a sixteenth century restoration, prompted the legend that the blessing hand held the fate of the city of Novgorod. See N. Malickii, "Remarques sur la date des mosaïques de l'église des Saints Apôtres à Constantinople décrites par Mesaritès," *Byzantion* 3 (1926), p. 129. For the St. Sophia Novgorod Pantocrator, see N. P. Kondakov, *Ikonografija Iisusa Khrista* (St. Petersburg, 1905), fig. 80.

<sup>16</sup> Painted in 1552 by Theophanes of Crete. See M. Chatzidakis, "Recherches sur le peintre Théophane le Cretois," *Dumbarton OP* 1969–70, pp. 321–22, fig. 86.

<sup>17</sup> For example the cupola of the catholikon of Dionysiou, dated 1547, see G. Millet, *Monuments de l'Athos* (Paris, 1927), pl. 195; Molivoklisia, dated 1536, Millet, *Athos*, pl. 153; Iviron, dated 1593–1603, Millet, *Athos*, pl. 255, 1.

<sup>18</sup> Underwood (above, n. 11), vol. 1, pp. 38–39; vol. 2, pls. 12, 13, 18.

leaning over. This is exactly what Christ is doing when placed in a cupola. He holds the book to his chest to prevent it from falling. Were the image vertical, Christ would hold the book from underneath or at its inner edge as a quick glance at any number of icons, miniatures and mosaics will confirm.

Because there are no preserved cupola decorations from the first century after iconoclasm, the identity of the cupola that Constantine is copying will always remain, to some degree, hypothetical. Nevertheless, I believe it is worthwhile exploring this problem because an examination of Constantine's political motives offers a reasonable solution. In a period as artistically rich and complicated as the first hundred years after iconoclasm, but a period from which so little monumental art has survived, reasonable hypotheses are a worthy pursuit.

There were two pattern or trial coins before the third and final version was accepted.<sup>19</sup> This is a unique instance in Byzantine numismatic history and suggests not only how significant this issue was to Constantine, but also that the emperor himself was involved in the design of his coin. The reverse of the first pattern coin (Plate 42, 6: *DOC* 11) is a direct reference to a coin issued by Constantine's father, Leo VI, about 40 years earlier (Plate 42, 8: *DOC* 1).<sup>20</sup> Constantine wears a chlamys with tablion and holds a globus cruciger. On the subsequent

<sup>19</sup> All ten examples of pattern coins belong to the Macedonian dynasty and of those ten, four occurred during the reign of Constantine VII. See *DOC*, vol. 3, pt. 1, pp. 98–99.

<sup>20</sup> The connection between Constantine VII's portrait and that of Leo VI was so strong that it led A. Blanchet, "L'influence artistique de Constantin Porphyrogénète," *Mélanges Henri Grégoire* 1, *Annuaire de l'Institut de philologie et d'histoire orientales et slaves* 9 (Brussels, 1949), pp. 97–104, to make the impossible suggestion that Leo's coin was actually issued posthumously by Constantine VII as a kind of memorial.

Blanchet also tried to connect the representation of Christ on the obverse of Constantine VII's coin with the Mandylion which had been transferred from Edessa to Constantinople on 15 Aug. 944. However, I can see no similarities between the Pantocrator coin and any of the various representations of the face of Christ on the Mandylion. See K. Weitzmann, "The Mandylion and Constantine Porphyrogenetos," *CahArch* (1960), pp. 224–246.

In addition there is an article on these portrait coins of Leo VI, Constantine VII, and Romanus II by A. R. Bellinger, "Byzantine Notes 5. Three Imperial Portraits," *ANSMN* 13 (1967), pp. 141–48.

issues Constantine wears a loros instead of a chlamys. The loros is the so-called modified loros that had first appeared on coins struck by the emperor Basil I.<sup>21</sup> Instead of being wound around the body, the loros falls straight in front and back with a hole for the head. The end of the back piece is picked up and draped over the left arm. On the second coin (Plate 42, 7: *DOC* 12) Constantine holds both globus cruciger and akakia. The akakia is eliminated from the third version of the coin, remarkably enhancing the monumental effect of the design. Constantine's long bearded visage is an obvious indication of his relationship with Leo VI. A vibrant and evidently accurate portrait,<sup>22</sup> it offers an astonishing contrast with the more schematic, linear renderings of the members of the Byzantine imperial family normally found on coins of this period.

The obverses of the first and second coins also show signs of experimentation and alteration. On the first the execution is not nearly as fine as on the next issues, and the designer appears to have misunderstood the drapery. The folds at the inner side of the blessing arm overlap the portion of the mantle passing under the blessing arm. The obverse of the next coin, while certainly related to the final version (Plate 41, 1) in the details of the blessing hand and the way in which the left hand clasps the book, still contains some curious differences. The arms are not lifted away from the body. The figure is much narrower at the shoulders and the head is considerably smaller in relation to the circumference of the coin. Furthermore, the book is held at the middle of the chest instead of slightly to Christ's left and it is rendered *en face* instead of at an angle displaying the inner edge of the book.

Even though Constantine VII ruled alone for little longer than two months before Romanus II was crowned co-emperor, the issue of Pantocrator coins containing only Constantine's portrait appears to have been fairly large. This can be generally estimated by comparing the

<sup>21</sup> *DOC*, vol. 3, pt. 2, pl. 32, 11. See *DOC*, vol. 3, pt. 1, pp. 120–25, for a discussion of the modified loros.

<sup>22</sup> Constantine is described by the second anonymous author of Theophanes Continuatus, *Chronographia*, Bk. 4, *CSHB*, vol. 44, p. 468: "In personal appearance the Emperor Constantine Porphyrogenitus was tall in stature. His complexion was milk white. He had fine eyes; their expression was genial. He was beaky-nosed. He had a long face, ruddy cheeks and a long neck."

number of dies to coins. Thirteen specimens were examined by T. Gregory who found nine obverse and nine reverse dies giving a ratio of .692.<sup>23</sup> When Romanus II joined his father on the reverse of the "Pantocrator" coin, the imperial portrait then reverted to the more schematic formula that was normally used for imperial numismatic portraits (Plate 42, 9: *DOC* 15.26).<sup>24</sup> Constantine's choice of the Christ type continued as the standard obverse design for the rest of the Macedonian dynasty through the reign of Constantine IX (1042–56).<sup>25</sup> However, beginning with Romanus III, new types were introduced and co-existed with Constantine's design, which, after constant repetition, had been degraded to a rather sterile formula. The type continued to be used sporadically for another hundred years until the reign of John II Comnenus.<sup>26</sup>

What then was the model chosen by Constantine VII for the obverse of his coin? Obviously it must predate the coin's appearance in 945. Unfortunately, the earliest post-iconoclastic church decorations have not survived. We do not know whether the first post-iconoclastic dome of Hagia Sophia contained a bust or an enthroned Christ. An inscription in the north tympanum that includes the words "Thou sittest as on a throne in the vault, wrought by Thy own hands," might seem to favor an enthroned image.<sup>27</sup> But our only solid information about the dome decoration of Hagia Sophia refers to an enormous Pantocrator executed after the collapse of the dome in 1346.<sup>28</sup>

<sup>23</sup> Timothy Gregory, "The Gold Coinage of the Emperor Constantine VII," *ANS MN* 19 (1974), p. 94.

<sup>24</sup> Note that this coin contains some differences that are rather reminiscent of second trial coin discussed above. The book is held more toward the center and Christ has narrower sloping shoulders. Grierson has kindly let me see his file of Constantine VII coins and this variation does occur periodically. It is usually characterized by the existence of two pellets in each branch of the cross nimbus as opposed to the normal three. Grierson, in correspondence on this subject, feels that these slight variations represent no more than the simple vagaries of the die designers.

<sup>25</sup> *DOC*, vol. 3, pt. 2, pls. 36–59.

<sup>26</sup> M. Hendy, *Coinage and Money in the Byzantine Empire 1081–1261* (Washington, D.C., 1969), pl. 1, 9–12; pl. 2, 1–2; pl. 10, 9–11; and pl. 11, 1–2.

<sup>27</sup> C. Mango, *The Mosaics of St. Sophia at Istanbul* (Washington, D.C., 1962), pp. 63–64.

<sup>28</sup> Mango (above, n. 27), p. 87.

We know that a bust of Christ was placed in the dome of a church built by Stylianus Zaoutzas. The church was dedicated sometime between 886 and 893 by Leo VI, then Zaoutzas's son-in-law. Leo, in a homily,<sup>29</sup> goes to some lengths to describe this image which he tells us twice was lacking the lower part of the body, implying that as a cupola motif this was a relatively recent invention.

The first bust of Christ placed in a dome of which we have a visual record is in the cupola of the south gallery of Hagia Sophia at Constantinople (Plate 42, 10). It is known through several drawings and a water color by the Fossati brothers.<sup>30</sup> On the basis of its style, Mango has dated this mosaic to the late ninth or early tenth century. This bust of Christ is quite different from the type used on the coins of Constantine VII. The blessing hand is held in front of the chest instead of to the side, and it displays the most common type of blessing gesture with the little and ring fingers touching the thumb. The blessing arm is enveloped in the sling of the mantle which loops from one shoulder to the other, in the same fashion as Christ's cloak on the coins of Justinian II and Michael III. The motif of clasping the book to the chest shows quite clearly that this image was conceived for a cupola. The book is held at an angle and the fingers supporting it are slightly separated. On the coins of Constantine VII and the later cupola images, this feature has been enormously exaggerated.

It is astonishing how few cupolas have survived from the tenth and eleventh centuries. The next example, the cupola in Hagia Sophia at Kiev, is dated in the middle of the eleventh century<sup>31</sup> (Plate 43, 11).

<sup>29</sup> Sermon 34, ed. Akakios, *Λέοντος τοῦ Σοφοῦ πανηγυρικοὶ [sic] λόγοι* (Athens, 1868), pp. 275–76, also C. Mango, *The Art of the Byzantine Empire 312–1453; Sources and Documents* (Englewood Cliffs 1972), pp. 203–4.

<sup>30</sup> Mango (above, n. 27), pp. 29–35.

<sup>31</sup> O. Povstenko, *The Cathedral of St. Sophia in Kiev* (New York, 1954), figs. 32–33, and V. Lazarev, *Mozaiki Sofii Kievskoi* (Moscow, 1960), pp. 77–81, and pls. 1–4.

The Kiev Pantocrator type appears later in a still more expanded version in the domes of two churches on Cyprus, the Panagia tou Arakos at Lagoudera and the Church of the Holy Apostles at Perachorio, both decorated in the second half of the twelfth century. In the case of the Lagoudera Pantocrator the similarity with the Kiev version extends even to the small corner of the cloak draped over the left shoulder. See D. C. Winfield, "The Church of the Panagia tou Arakos, Lagoudera: First Preliminary Report, 1968," *Dumbarton OP* 1969–70, fig. 2, and A. Megaw

The Pantocrator is surprisingly similar to that in the south gallery of Hagia Sophia. The blessing arm, using the traditional blessing gesture, is more extended, but it is still enveloped in the same manner, with the drapery looping from one shoulder to the other instead of passing across the chest and over the left arm as on the coin. Also, the left hand holds the gospel to the chest in the same way as the Hagia Sophia Pantocrator.

Among the churches of Cappadocia, several undated but relatively early churches contain busts of Christ. None of these reflect exactly the prototype used on Constantine's coin. The Qeledlar (Kiliclar) Church, dated about 950–1020,<sup>32</sup> has two Pantocrator busts in the northeast and southeast cupolas, while the main dome is reserved for the Ascension. Both of these Pantocrators resemble more the version in the south gallery of Hagia Sophia. Also the three Cappadocian churches from the late eleventh or twelfth centuries, Elmali,<sup>33</sup> Carikli,<sup>34</sup> and Karanlik,<sup>35</sup> which closely reflect Constantinopolitan models in both architecture and decoration, depict a Pantocrator type different from that at Daphni. The arms are lifted away from the body in a manner suitable to the shape of the cupola. But the blessing hand, using the most common type of gesture, is held in front of the body instead of to the side. Nor is the book held in the distinctive manner of the Daphni Pantocrator and that on Constantine's coin.

The earliest appearance of the image used on Constantine's coin in monumental art occurs in the north cross arm of Hosios Loucas, from

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and E. Hawkins, "The Church of the Holy Apostles at Perachoria, Cyprus, and Its Frescoes," *Dumbarton OP* 1962, p. 287, figs. 3–4.

<sup>32</sup> G. de Jerphanion, *Les églises rupestres de Cappadoce*, Plates 1 (Paris, 1925–42), pl. 53, 1. M. Restle, *Byzantine Wall Painting in Asia Minor*, 2 (New York, 1967), pls. 253–254. Also see S. Kostoff, *Caves of God* (Cambridge, Mass., 1972), p. 269, no. 37 for bibliography.

<sup>33</sup> Jerphanion, Plates 2 (above, n. 32), pl. 120, 2; Restle, 3 (above, n. 32), pl. 161; Kostoff (above, n. 32), p. 274, no. 57.

<sup>34</sup> Jerphanion, Plates 2 (above, n. 32), pl. 126, 2; Restle, 3 (above, n. 32), pl. 195; Kostoff (above, n. 32), p. 274, no. 58.

<sup>35</sup> Jerphanion, Plates 2 (above, n. 32), pl. 97, 1; Restle, 3 (above, n. 32), pl. 220; Kostoff (above, n. 32), p. 257, no. 59.

about the middle of the eleventh century.<sup>36</sup> Christ is placed in a medallion in one segment of a groin vault and appears as a kind of quotation of the cupola model. The first instance of this figure in a cupola proper is the example at Daphni (Plate 41, 3).<sup>37</sup> Considering the subsequent popularity of this type, it is rather surprising that earlier examples are so scarce. Possibly this may be explained by the use of the motif as an imperial emblem on the coinage of the Macedonian emperors. The appearance of the type in monumental art generally coincides with its disappearance from coinage. Equally one could postulate that the model used by Constantine was not a public church, but rather a private one with limited access to the public.

With this in mind let us direct our attention to an examination of Constantine's particular concerns as they are reflected in his literary activity. We know that during the period between 945 and his death in 959 Constantine was extraordinarily preoccupied, indeed one might say obsessed, with the life of his grandfather Basil. The reason for this obsession was the method by which Basil, the founder of the Macedonian dynasty, had attained the throne. Basil had become sole emperor after murdering first the caesar Bardas in 865 and then Michael, his own sponsor, in 867. Although it seems certain that had Basil not murdered Michael, Michael would have murdered him, still Constantine was extremely sensitive to this issue, as it naturally affected his position as "porphyrogenitus."<sup>38</sup> There are three versions of Michael's demise

<sup>36</sup> E. Stikas, *Tὸ Οἰκοδομικὸν Χρονικόν τῆς Μονῆς Ὁσίου Αονκᾶ Φωκίδος* (Athens, 1970), pl. 71. The date of the mosaics of the main church at Hosios Loucas is disputed. M. Chatzidakis, "A propos de la date du fondateur de Saint-Luc," *CahArch* (Paris, 1969), pp. 127–50, and "Precisions sur fondateur de Saint-Luc," *CahArch* (Paris, 1972), pp. 87–88, proposes a date of 1011 while Stikas in his monograph, pp. 9–38, and a subsequent book, *Ο κίτωρ τοῦ καθολικοῦ τῆς μονῆς Ὁσίου Λουκᾶ* (Athens, 1974–75), maintains a date during the reign of Constantine Monomachus, 1042–56.

<sup>37</sup> Above, n. 4.

<sup>38</sup> A. Toynbee, *Constantine Porphyrogenitus and His World* (London, 1973), pp. 581–98, devotes an entire chapter to the true story of Michael's death and Constantine's efforts at a "cover-up." See also N. Tobias, "Basil I (867–886), the Founder of the Macedonian Dynasty: A Study of the Political and Military History of the Byzantine Empire in the Ninth Century" (Ph. D. diss., Rutgers University, 1969).

for which Constantine VII was responsible: the first written between 944–48 by the historian Genesius,<sup>39</sup> the second by the anonymous author of the first four books of Theophanus Continuatus, ca. 949–50<sup>40</sup> and the third, the *Vita Basili*, by Constantine himself (ca. 950).<sup>41</sup> They all try to shift the blame for Michael's death away from Basil. That they did not succeed we know from Liutprand's account in *Antapodosis*.<sup>42</sup> Liutprand says that it was common knowledge that Basil had murdered Michael. Furthermore, he says, in order to expiate the sin, Basil built the Nea and dedicated it to Michael's namesake, the archangel Michael.

Genesius, whose views more nearly coincide with those of Constantine, reports the dedication of the Nea somewhat differently. He records:

Basil seized upon the personal advantage which the murder presented him, recognizing that he now wore the imperial crown by God's grace and not as before [by Michael's]. He expressed his gratitude to God by building a new church, dedicated to the high commanders of the incorporeal hosts. The church, created by the will and faith of the emperor, was distinguished by its size and beauty and the expense of construction, being exceedingly fair and most worthy. When the church was completed, he dedicated it and in this church he received the imperial crown from patriarchal hands, thus establishing with the archangels' aid, another beginning of the realm in his person (ἄλλην ἀρχὴν καθιστῶν ἐαυτῷ βασιλείας). The imperial crown had now been conferred on him by the archangels' aid.<sup>43</sup>

Genesius, and by extension Constantine, is proposing that Basil built the Nea not in atonement, but in gratitude at finding himself sole emperor. Genesius also records that Basil was recrowned in the Nea for, of course, he had already been crowned co-emperor by Michael III in

<sup>39</sup> Genesius, *Basileiai* 4, 54 (CSHB 45, pp. 112–14).

<sup>40</sup> *Chronographia* 4, 44 (CSHB 44, pp. 204–6).

<sup>41</sup> *Chronographia* 5, 27 (CSHB 44, pp. 235–38).

<sup>42</sup> *Antapodosis* (Hanover, 1915), bk. 1, chaps. 8–10; bk. 3, chaps. 32–34.

<sup>43</sup> Genesius, *Basileiai* 4, 54 (CSHB 45, p. 113); English trans., Toynbee (above, n. 38), p. 584.

866. The Nea thus marks a new beginning of Basil's realm and, therefore, the beginning of the whole Macedonian dynasty.

Constantine himself devoted a long passage to the Nea in his *Vita*. He apparently regarded it as Basil's finest achievement. He mentioned that Basil built it out of piety to repay the benevolence of Christ, Gabriel, and Elijah who had prophesized to his [Basil's] mother her son's elevation to the throne.

But why do we dwell on his [Basil's] lesser achievements, great as they are, and not include that admirable work of his which he built in the very imperial palace, himself supervising it and creating it—which work is in itself sufficient to express his piety towards the Godhead and the wonderful grandeur of his undertaking? For repaying, as it were, of their benevolence on his behalf, Christ our Lord, and Gabriel, primate of the angelic host, and Elijah, the zealous Tishbite (who had announced to his mother her son's elevation to the throne), he built in their name and to their eternal memory—of them, and furthermore, of the Mother of God and Nicholas, chief among bishops a holy and beautiful church . . . .<sup>44</sup>

Constantine then proceeds to give an elaborate description of the various marble fountains and other decorative details, although he offers no clues unfortunately about its figural decoration. Embarrassed by devoting so much attention to the church, he concludes, "But enough has been said of the above, lest we be accused of tastelessness . . . ."

The information provided by Genesius that Basil was crowned again in the Nea and that the church, at least according to Constantine, was dedicated to Christ, Elijah, and Gabriel find a pictorial equivalent in folio Cv of the Paris Gregory (Plate 43, 12: photo Bibliothèque Nationale, Paris). Basil is flanked by Elijah to his left handing him a labarum and Gabriel to his right placing a crown on his head. Each figure is labeled. An inscription runs around the frame of the whole miniature. It reads:

<sup>44</sup> *Chronographia* 5, 83–87 (*CSHB* 44, pp. 325–331); English translation, C. Mango (above, n. 29), pp. 194–95.

... ΕΜΦΑΝΩΣ ΝΙΚΗΝ ΚΑΤ ΕΧΘΡΩΝ ΗΛΙΑΣ ΥΠΟΓ-  
ΠΑΦΗ Ο ΓΑΒΡΙΗΛ ΔΕ ΤΗΝ ΧΑΡΑΝ ΠΡΟΜΗΝΥΩΝ  
ΒΑΣΙΛΕΙΕ ΣΤΕΦΕΙ ΣΕ ΚΟΣΜΟΥ ΠΡΟΣΤΑΤΗΝ<sup>45</sup>

[Clearly Elijah records the victory over your enemies, while Gabriel having foretold the joy crowns you Basil protector of the world.]

It has been suggested that this miniature and the inscription refer to Basil's campaign in Asia Minor in 879.<sup>46</sup> However Basil was equally preoccupied with the building and dedication of the Nea at just this time so that one might assume that this miniature and indeed the entire manuscript marks the dedication and recoronation, rather than a specific and rather minor military victory.<sup>47</sup>

The name of Basil's church was not simply the Nea Ekklesia but, according to the *Book of Ceremonies*, it was the Nea Megali Ekklesia. In other words, Basil intended to give it equal status with Hagia Sophia, the original Megali Ekklesia. The *Book of Ceremonies* composed by Constantine, moreover, singles out the Nea for special attention. Its dedication on the first of May is accorded an entire chapter commemorating this event. No other church in all Constantinople is similarly distinguished. The title says, "On the first of May, the dedication of the Nea, that which one observes on the feast of the dedication of the

<sup>45</sup> H. Omont, *Les miniatures des plus anciens manuscrits grecs de la Bibliothèque Nationale du VI<sup>e</sup> au XIV<sup>e</sup> siècle* (Paris, 1929), pl. 19 and p. 13.

<sup>46</sup> I. Spatharakis, "The Portraits and the Date of Codex Par. Gr. 510," *CahArch* (Paris, 1974), p. 97. Spatharakis' arguments for a date of 879 for the Paris Gregory have now been decisively rejected by I. Kalavrezou – Maxeiner, "The Portraits of Basil I in Paris Gr. 510," *Jahrbuch der österreichischen Byzantinistik* 1978, pp. 19–24.

<sup>47</sup> The matter of the Nea's dedication is somewhat cloudy, perhaps because of Constantine's obsession with clearing his grandfather's name. The principal dedication was a triple one—Christ, Elijah, and depending on the source, Gabriel, Michael, or the archangels collectively. All three possibilities are mentioned by Constantine himself. Toynbee (above, n. 38), pp. 586–87, proposes that the original dedication was to Michael (also recorded by Liutprand, *Antapodosis*, 1.8–10, and others) and that Constantine then amended his *Vita* to make Basil's dedication look less like an act of atonement, but overlooked the passage that mentioned Michael.

Nea Megali Ekklesia." A scholium attached to the title notes that this feast was established under the emperor Basil I.<sup>48</sup>

The Nea then was Basil's finest achievement. But, more importantly for Constantine, it marked the real beginning of the dynasty to which Constantine, not Romanus Lecapenus, was the rightful heir. The reverse of Constantine's coin certainly demonstrates Constantine's concern with his lineage and position. It began as an outright copy of the portrait of his father, Leo VI, even to the extent of using the chlamys and tablion instead of the more fashionable modified loros which he soon substituted. Leo, of course, was a vital link in the chain of legitimacy and the lengths to which he went to obtain an heir were certainly not forgotten.<sup>49</sup> Assuming that the same kind of political attitude motivated the choice of the obverse design, then the most appropriate choice was a motif from the Nea, a symbol of the new dynasty.

But the Nea fits other criteria as well. It was a palace church and would not have been accessible to many which then might explain its very delayed impact on cupola decoration. Constantine himself says since these beautiful things within the palace are not accessible to everyone, they are brought to the ears of serious inquirers in an account set out in writing. "The object is to win for the author of these works the admiration that is his due, and to save those who are excluded from the right of entry into the Palace from being totally ignorant of its

<sup>48</sup> *De ceremoniis aulae byzantinae*, ed. and trans. A. Vogt, *Le Livre des cérémonies*, 2nd ed. (Paris, 1967), I, pp. 110–12. At the same time Basil instituted a ceremony observing the feast of St. Elijah, pp. 106–9. The two ceremonies take place for the most part in the Nea and they both include the lighting of candles in front of an image of Basil, "the Christ-loving sovereign." J. B. Bury, "The Ceremonial Book of Constantine Prophyrgennetos," *English Historical Review* 22 (London, Apr. 1907), pp. 209–227, and 22 (July 1907), pp. 417–39, concludes (see sections 21 and 26) that these two ceremonies were recorded by Leo VI although the original draft, he believes, dates from the reign of Basil.

<sup>49</sup> On the tetragamy matter, see R. J. H. Jenkins and B. Laourdas, "Eight Letters of Arethas on the Fourth Marriage of Leo the Wise," *Hellenika* 14 (Thessalonica 1956), pp. 293–372; R. J. H. Jenkins, "There Documents Concerning the 'Tetragamy,'" *Dumbarton OP* 1962, pp. 231–41, and N. Oikonomides, "Leo VI and the Narthex Mosaic of Saint Sophia," *Dumbarton OP* 1976, pp. 153–72.

wonders.”<sup>50</sup> One wonders if something of this sentiment might equally have inspired Constantine’s choice for the obverse of his coinage.

Basil dedicated the Nea on 1 May 880 so the decoration of the cupola must be dated to the late 870s. Such a date for the design we see reflected on Constantine’s coin is perfectly supported by close stylistic affinities with the apse mosaic at Hagia Sophia, whose date is now firmly established as 867.<sup>51</sup> The most striking characteristic of both Pantocrator and Virgin and Child is a rather plastic three-dimensional quality, an impression of real physical presence. The images occupy space rather than being drawn on the surface. The infant Christ really sits on his mother’s lap. The cupola Christ is not merely a flat iconic image, but actually seems to look down from above. In light of the three-dimensional qualities, which would have been even more apparent in the source for the coin, a remark by the fourteenth century pilgrim, Stephen of Novgorod, is particularly striking. Speaking of the Nea, Stephen says, “There is a Christ of natural grandeur which is like a statue and not like an image.”<sup>52</sup>

Coin design, at least at its inception, is meant to convey a message. In the case of Byzantine coins, this message is generally imperial in inspiration. The legend found on the coin of Constantine proclaims Christ king of those who rule. However, Basil, Alexander, Leo VI, and Romanus I had also issued coins with the same inscription, but with different images of Christ. The individual images must have served to differentiate one issue from another. But they were more than random images. In the case of Constantine’s coin we can be certain that it is copying a specific monumental source. I am proposing that this source was the dome of the Nea Megali Ekklesia. The reverse of the coin, breaking the normal pattern of schematic imperial portraits, demonstrates very clearly Constantine’s concern with legitimate dynastic succession. His own writings as well as those sponsored by him reinforce those concerns and more particularly give an interpretation of Basil’s dedication of the Nea that completes the dynastic message begun on the reverse of the coin.

<sup>50</sup> *Chronographia* 5, 87 (*CSHB* 44, p. 329).

<sup>51</sup> C. Mango, “The Apse Mosaics of St. Sophia at Istanbul,” *Dumbarton OP* 1965, pp. 115–151.

<sup>52</sup> S. Khitrowo, *Itinéraires russes en orient* (Geneva, 1889), p. 120.

THE COINAGE OF TREBIZOND  
UNDER ISAAC II (A.D. 1185-95). WITH A NOTE  
ON AN UNFINISHED BYZANTINE DIE<sup>1</sup>

(PLATE 44)

SIMON BENDALL

In the *Numismatic Chronicle* for 1977, the author published a series of thirteen bronze coin types struck in Trebizond in the late eleventh and early twelfth centuries.<sup>2</sup> Most of the types are anonymous, although three or four bear the name of Alexius. The author postulated that the first eight or nine issues were struck between ca. 1081 and 1091 when the city was under imperial control, while issues ten to twelve date to the period 1091/2 to 1098 when the Duke of Trebizond, Theodore Gabras, had made himself independent of the central government.

It may be considered surprising that a city on the very edge of the empire, having only tenuous connections by land and sea with Constantinople, should have produced such a prolific, albeit today scarce, coinage. However there can be no doubt of the existence of this mint; provenance, overstrikes and internal content of the coinage all confirm it.

The purpose of this article is to put forward two coins as issues of the mint of Trebizond for the reign of Isaac II.

The history of Trebizond after the reign of Alexius I is rather obscure.<sup>3</sup> By 1119, Constantine Gabras was Duke of Chaldia following

<sup>1</sup> The research on the coinage of Trebizond is authored by Simon Bendall. The note on the unfinished Byzantine die is coauthored by Simon Bendall and David Sellwood.

<sup>2</sup> S. Bendall, "The Mint of Trebizond under Alexius I and the Gabrades," *NC* 1977, pp. 126-36, pls. 6-7.

<sup>3</sup> W. Miller, *Trebizond, the Last Greek Empire* (Chicago, 1969); A. A. M. Bryer, "A Byzantine Family: The Gabrades, c. 979-c. 1653," *The University of Birmingham Historical Journal* 12 (1970), pp. 164-87. A. A. M. Bryer, S. Fassoulakis and D. M. Nicol, "A Byzantine Family: The Gabrades, an Additional Note," *Byzantinoslavica* 36 (1975), pp. 38-45.

a successful career as a general under Alexius I. The distance between Trebizond and Constantinople seems often to have led the governors of the province to assume more independence than was allowed by the Byzantine emperors. Constantine Gabras was no exception and in 1139/40 John II was driven to set out on an expedition against his unruly governor. The expedition was a failure, however, and Constantine Gabras seems to have remained independent although we do not know for how long; the date of his death is also uncertain. By the mid-1160s Chaldia was again part of the empire and Nicephorus Palaeologus its new Duke. It appears that the province remained under the control of the emperor until the establishment of the Empire of Trebizond by Alexius Comnenus in 1204.

Much of the material on which the article concerning the coinage of Trebizond under Alexius I and the Gabrades was based came from a large collection of coins formed many years ago in Trebizond which the author had the good fortune to examine. Most of the coins, some hundreds, were of the Empire of Trebizond; about forty were of the aforementioned Alexian period, while three coins, which fit into neither category, are the subject of this short article and described below:

(Type 1) *Obv.*: [ MP ] ΘV in upper field

Virgin, nimbate, wearing tunic and maphorion, seated upon throne with back; holds beardless, nimbate head of Christ on breast.

*Rev.*: Legend illegible

Full-length figure of emperor wearing stemma, divitision, collar-piece with six jewels, jewelled loros with waist ☐, and sagion; holds in r. hand, scepter cruciger, in l., anexikakia. *Manus Dei* in upper r. field.

a) 4.65 (Plate 44, 1)

b) 4.39

(Type 2) *Obv.*: [ΘKERO] HΘI around; [ MP ] ΘV in field

Full length figure of Virgin, nimbate, orans, standing on dais, wearing tunic and maphorion; nimbate head of Christ on breast.

*Rev.*: As type 1.

5.70 (Plate 44, 2)

As can be seen from the illustrations, these coins are struck on polygonal flans, having between eight and ten sides. The thickness of the flans, between 1.0 and 1.2 mm, is considerably greater than that of the Constantinopolitan trachea. The latter generally vary between ca. 0.6 and 1.00 mm, often on the same coin while the thickness of the Trebizond coins is more regular. The weights of the two types are considerably heavier than the Constantinopolitan coins recorded by Hendy<sup>4</sup>—the heaviest by 1.2 grams more than Hendy's heaviest. While three coins are not perhaps a sufficient number on which to base firm conclusions, their average weight is 4.91 grams against an average of 3.47 grams of the 12 coins listed by Hendy. It seems probable also that the new coins are pure copper and contain no silver as do the Constantinopolitan issues.

Type 1 is an exact copy of the Constantinopolitan trachea but Type 2 has a completely different obverse which seems to have been copied from Isaac's tetarteron.<sup>5</sup> The style of both types is very precise, with many details finer than on the Constantinopolitan coins.

There can be no doubt that the coins described here were struck in Trebizond. Not only does the provenance point to this, but also the polygonal clipped flans, completely unlike those of the metropolitan mint, are indistinguishable from the earlier coins of Trebizond (Plate 44, 3) although, of course, the two types under discussion are of scyphate form.

With the mint having been established as Trebizond, can there be any doubt that Isaac II was the issuer of these coins? Historically, there is no problem in this attribution as at that time the province was under the control of the central government. The problem would be to assign the coins to any other period. At Constantinople the alternatives to Isaac II would be Latin or Bulgarian, but these do not apply at Trebizond. It is unlikely in the extreme that Alexius III would have issued the types of his predecessor. No coins are known of Alexius III's successor Alexius Comnenus (1204–22) although if they do exist they will undoubtedly bear his name for it is most unlikely that the

<sup>4</sup> M. F. Hendy, *Coinage and Money in the Byzantine Empire, 1081–1261*, Dumbarton Oaks Studies 12 (Washington, D.C., 1969), p. 419.

<sup>5</sup> Hendy (above, n. 4), pl. 21, 8–9.

founder of an empire would not have advertised himself. There are, however, two types known for the next emperor Andronicus I (1222–35).<sup>6</sup>

While there is a certain similarity in style, especially in the obverses, between the coins of Isaac and of Andronicus<sup>7</sup> the form of the flans, their weights and thickness are quite dissimilar. The former look back to earlier forms of the twelfth century while the latter are based upon the nearly contemporary Latin coinage.

In conclusion, it seems clear from this review that these two types in the name of Isaac II can belong to no other period than the reign of Isaac II and the mint of Trebizond.

#### A NOTE ON AN UNFINISHED BYZANTINE DIE

The method of production of dies can often be inferred from an inspection of the coins which were struck by them. It is however very unusual to come across a specimen emanating from a substantially incomplete die.<sup>8</sup>

The trachy dealt with here is in the collection of the American Numismatic Society. The issue is an electrum aspron trachy (Var. B)<sup>9</sup> of Isaac II struck at the mint of Constantinople.

The scyphate type of flan, so characteristic of Byzantine coinage of this period, must have given the die engravers many problems, not least that of cutting the appropriate designs on a curved surface. Here the figure of the Virgin, which has only a tentative outline, appears, as usual, on the convex face; the latter of course had been impressed by the convex die. It has recently been argued<sup>10</sup> that two skew impressions

<sup>6</sup> D. M. Metcalf and I. T. Roper, "A Hoard of Copper Trachea of Andronicus I of Trebizond (1222–1235)," *NCirc* 83 (June 1975), pp. 237–38, and A. Veglery and A. Millas, "Copper Coins of Andronicus I, Comnenus Gidon (1222–1235)," *NCirc* 85 (Nov. 1977), pp. 487–88.

<sup>7</sup> Compare the obverses of Plate 44, nos. 1 and 4.

<sup>8</sup> Previously only the most minor omissions on dies were known to the authors, such as the coin of Andronicus II and Michael IX where the pellets outlining the obverse inscription were not connected (*BMCByz.* 2, p. 629, no. 36).

<sup>9</sup> Hendy (above, n. 4), pl. 20, 7–8.

<sup>10</sup> S. Bendall and D. Sellwood, "The Method of Striking Scyphate Coins Using Two Obverse Dies," *NC* 1978, pp. 93–104.

of the upper die, the one in question here, were required to obtain anything like a full coverage of the designs of both obverse and reverse. Such a sequence would account for the apparent double-striking to be seen on our coin, particularly at the shin-bone, at the vertical axial line over the heart position at the (viewer's) right shoulder and, finally, at two o'clock on the nimbus. Hence we should discount much of what seems to be a very sketchy outline of the design. Instead, reference to the areas where there is *no* overlap of impressions, e.g. the two parallel vertical lines representing the bottom of the cloak at the right, demonstrates a secure enough touch.

Nevertheless, when set against the much more sophisticated figures on the other side of the coin, the discrepancy in artistic skill needs explanation. How would the thick central line on the Virgin's face be transformed into an acceptable nose, mouth and chin? In fact, on a finished die, much of this area would require further excavation to give the sort of relief characterizing the faces of the two saints. So what we have is merely an intermediate stage before the chief craftsman gets to work. We know that for some of the earlier machine made coinages certain essential parts of the design were inserted on the die by a master punch and that details were added afterward. A similar process may have occurred for the Byzantine series. A hub was employed to ensure that the major elements were correctly positioned vis-à-vis the curved surface of the blank die. This would then be worked over with scorpers and center punches to obtain the sharp outlines of the figure, the decorations on the dress, etc.

However, for the die in question, only the outer dotted circle of this second stage was completed and the embryonic die was then thrust before its time under the striker's hammer.



## THE SILVER COINS OF BAYBARS I WITHOUT MINT NAME

(PLATES 45-46)

M. R. BROOME

In his magnificent study of the Mamluk coinage<sup>1</sup> Paul Balog aimed at "a comprehensive study containing the maximum of information" but in his listing of the silver coins of Baybars I, he cautiously recorded only what he read on the coins at his disposal and did not speculate on the conclusions that might be derived from this information. His "Additions and Corrections"<sup>2</sup> published six years later, while adding details of new coins, also refrained from comment on the significance of the presence or absence of the caliph's name or of the change in Baybars' titles. Fortunately, Michael Bates has recently set out<sup>3</sup> a possible sequence of issues which connects the changes in legend with historical events occurring during the earlier period of Baybars' rule.

In this interesting and convincing paper, Bates notes two questions still outstanding concerning his suggested sequence for the Syrian mints, viz. (a) that there were apparently no coins struck at Damascus or Hamah between 660 and 666 H. and (b) that an anomalous series of coins exist, of Syrian style but with no mint or date.

Details have now become available of an Ayyubid/Mamluk "hoard"<sup>4</sup> containing a predominance of coins from the mint of Hamah and certain coins show a connection between the named Baybars I coins of Damascus, and Hamah and two different issues with no mint name.

<sup>1</sup> P. Balog, *The Coinage of the Mamluk Sultans of Egypt and Syria*, ANSNS 12 (New York, 1964). Cited hereafter as *MSES*.

<sup>2</sup> P. Balog, "The Coinage of the Mamluk Sultans: Additions and Corrections," ANSMN 16 (1970), pp. 113-71.

<sup>3</sup> M. L. Bates, "The Coinage of the Mamluk Sultan Baybars I: Additions and Corrections," ANSMN 22 (1977), pp. 161-81.

<sup>4</sup> Details of this hoard have been deposited at the British Museum and will appear in *Coin Hoards* 3 (1979).

First, it is necessary to clear up one point on which Balog seems to have been misled, that is the Damascus coin listed under the general heading of "With Mint & Date" as *MSES* 47 "Date Missing." The reference is to a unique coin in the Bibliothèque Nationale, Paris,<sup>5</sup> on which the mint is visible but nothing else of the reverse marginal inscription. Eight further coins of this type have now been recorded and it is clear that none of these are dated (Plate 45, 1). *MSES* 47 should therefore be relisted under the heading "With Mint but no Date."

There is extensive die linking between these specimens, with four obverse (Balog's definition) and four reverse dies but one coin (Plate 45, 2) has an obverse die link with a no-mint coin of the type *MSES* 44 (Plate 45, 3). Unfortunately the mint is off the flan in figure 2 but the reverse is clearly of the same issue as the coins named to Damascus, all of which at this time have a small fleur-de-lis over the word Qasim. Neither coin is struck well enough to determine which was the earlier, although, if dies were produced at this period from a lead master via baked clay matrices as Balog suggests,<sup>6</sup> several apparently identical dies could be in use at the same time. All that can be definitely said is that in all probability the coins of type *MSES* 44 were struck at the same mint as those of *MSES* 47, i.e. Damascus. Both series carry the name of al-Mustansir, who was killed in 660, but as they are undated, it is not impossible that some of them are posthumous and that the series was struck between 659, when dated Damascus coins are known (*MSES* 71A), and 666 the date at which Damascus belatedly recognized the Caliph al-Hakim on its coins (*MSES* 56).

The lacuna in the sequence for Damascus set out by Bates was probably filled by the no-mint no-date coins of *MSES* 44 with al-Mustansir's name,

1. al-Malik without Caliph	Damascus 659	<i>MSES</i> 71
2. al-Sultan with al-Mustansir	Damascus n.d. but 659–60(?)	<i>MSES</i> 47
3. al-Sultan with al-Mustansir	n.m. n.d. but 660–66(?)	<i>MSES</i> 44

<sup>5</sup> Lavoix, vol. 3, p. 281, no. 713.

<sup>6</sup> *MSES*, p. 55.

4. al-Sultan with al-Hakim	Damascus 666–76	<i>MSES</i> 56–63 and 51–54
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A second link with the no-mint coins exists with the coins of Hamah dated 660 (*MSES* 48; Plate 45, 4). Balog recorded only 2 copies of this type but the present hoard contained 80 specimens for which 3 obverse and 4 reverse dies have been noted. One of these obverse dies was also used in conjunction with a reverse die of the no-mint, no-date type (Plate 45, 5) which normally gives Baybars only the title al-Malik but bears al-Mustansir's name on the reverse (Plate 45, 6). Two specimens of the *MSES* 48/42 "mule" exist with different obverse dies but the reverse is immediately distinguishable by the extra "alif" used in Abu al-Qasim. Although this reverse die has not yet been identified with a particular normal *MSES* 42 obverse die (only one of the seven specimens recorded by Balog has been illustrated), it seems reasonable to assign to Hamah both the al-Malik/al-Mustansir issue (*MSES* 42) and the al-Sultan/al-Mustansir mule.

A third series of no-mint no-date coins exists as a variety of *MSES* 44 not known to Balog. This has a large arabesque between two pellets below the reverse although the inscriptions are similar to those on the coins attributed above to Damascus. The style differs in a number of respects; the most noticeable being the omission of the inclined stroke over Ahmad on the reverse and the triangle of three pellets, instead of the usual two, below Baybars on the obverse (Plate 46, 7). There were six coins of this type in the hoard, from two pairs of dies, one of the specimens being a half-dirham struck with dirham dies. Although the series cannot at present be linked with any other Baybars coins, the arabesques may indicate the mint of Hamah where such decorations had been used on earlier Ayyubid coins.<sup>7</sup> Of all the Baybars coins examined, those of Hamah dated 660 are the nearest in style to the coins with the arabesques.

Unlike the Damascus coins, the die link connecting the Hamah 660 coins with the no-mint no-date "mule" shows clearly that the mule was struck first and this would indicate the following sequence for the Mamluk type silver of Hamah:

<sup>7</sup> E.g., Artuk, no. 707.

1. al-Malik with al-Mustansir	n.m., n.d. but 659(?)	<i>MSES</i> 42
2. al-Sultan mule with al-Mustansir	n.m., n.d. but 659–60(?)	<i>MSES</i> 48/42
3. al-Sultan with al-Mustansir	Hamah 660	<i>MSES</i> 48
4. al-Sultan with al-Mustansir with arabesque	n.m., n.d. but 660–66(?)	<i>MSES</i> —
5. al-Sultan with al-Hakim	Hamah 666–74	<i>MSES</i> 64–66

Half-dirhams struck from dirham dies are known from issues 1, 3 and 4 but none from special half-dirham dies.

The sequence of events which might have brought about these changes can now be postulated. Al-Mansur Muhammad, the ruler of Hamah, following the independent line he took in striking Ayyubid type coins jointly in his own name and that of al-Malik Baybars,<sup>8</sup> produces Mamluk-type coins of issue 1, recognizing al-Mustansir as caliph in 659 but ignoring Baybars' self-appointed title of sultan. Quickly brought to heel, perhaps when he paid homage to Baybars in late 659, he prepares new obverse dies with Baybars' proper titles but uses them up with his existing reverse dies as issue 2. Once these dies are used up, he produces new dies to the standard Baybars pattern and strikes issue 3 dated 660 and named to Hamah. For some reason, perhaps connected with similar events at Damascus, he wishes to ignore al-Hakim's succession to the caliphate, and reverts to the anonymous undated issue 4 after al-Mustansir's death in 660. Finally together with Damascus he is brought into line with Cairo in 666 and issue 5 is produced with al-Hakim's name in place of al-Mustansir's.

An Ayyubid practice which Baybars, alone amongst the early Mamluks, maintained was the production of special dies for half-dirhams. New coins from the hoard make it possible to suggest a sequence for the half-dirhams struck from these special dies. No coin published so

<sup>8</sup> Bates (above, n. 3), p. 177. There is, in addition, a badly struck coin in the author's collection which may be in the joint names of Qutuz and al-Mansur Muḥammad.

far bears a mint or date, but the hoard has several pieces named to Damascus and two of these show part of the date, viz. xx9, presumably 659. It is noticeable that Cairo and Hamah both used dirham dies to strike half-dirham coins, a practice not recorded at Damascus before 670 and Bates has drawn attention to the probability that all half-dirhams are Syrian as they all have the facing lion typical of that region. It can now be conjectured that they all come from Damascus and that the sequence is probably:

1. al-Malik	Damascus	<i>MSES</i> — (Plate 46, 8)
without a caliph	659	
2. al-Malik with	Damascus	<i>MSES</i> — (Plate 46, 9)
al-Mustansir	659	
3. al-Sultan with	Damascus	<i>MSES</i> — (Plate 46, 10)
al-Mustansir	n.d.	
4. al-Sultan with	n.m., n.d.	<i>MSES</i> 45 <sup>9</sup>
al-Mustansir		
5. al-Malik with	n.m., n.d.	<i>MSES</i> 43
al-Mustansir		
6. al-Malik without	n.m., n.d.	<i>MSES</i> 68
a caliph		
7. al-Malik with	n.m., n.d.	<i>MSES</i> 50
al-Hakim		

<sup>9</sup> The two anonymous specimens with the title al-Sultan differ from all other half-dirhams recorded, in that there is no marginal inscription on either side and it is possible that they came from Hamah, struck at the same time as the first issues from that mint in the name al-Sultan.



EARLY ISLAMIC TRANSITIONAL GOLD ISSUES  
OF NORTH AFRICA AND SPAIN  
IN THE AMERICAN NUMISMATIC SOCIETY

(PLATE 47)

ANNA M. BALAGUER  
trans. MICHAEL L. BATES

The cabinet of the American Numismatic Society, including coins on permanent loan from the Hispanic Society of America, contains 11 dinars and 7 fractions belonging to the transitional Byzantine-Islamic series of late seventh century North Africa and Spain, in addition to 9 coins of this series previously illustrated by Walker.<sup>1</sup> When Michael L. Bates was kind enough to send me casts of these 18 coins for publication we supposed that they had not been published, except for the 2 described but not illustrated by Walker, and 1 published by Miles<sup>2</sup> but omitted by Walker. In cataloguing these pieces, however, it seemed to me that some of them had a great resemblance to the coins reproduced by Codera, pl. 1 (Cordera's plates are hand drawn, not photographs).<sup>3</sup> My attention was especially drawn to no. 7 of the present catalogue, which turned out to be identical to Codera's pl. 1, no. 8. On it one observes the same defect in striking on the reverse (off-center die) and on the obverse is the inscription TERCIN which is found on no other coin of this series. Furthermore, the position and ductus of the letters

<sup>1</sup> J. Walker, *A Catalogue of the Arab-Byzantine and Post-Reform Umayyad Coins in the British Museum* (London, 1956), pp. 55–77, nos. HSA 1–6, 9, and ANS 13–14. Nos. HSA 7–8, p. 75 (nos. 8 and 16 below), were described but not illustrated.

<sup>2</sup> G. C. Miles, *Rare Islamic Coins*, ANSNNM 118 (New York, 1950), no. 55, pl. 4 (hereafter RIC).

I am indebted to Michael L. Bates who translated this article from the Spanish, conducted the specific gravity readings and assembled the information in Table 1 and to W. A. Oddy who provided the specific gravity information in Table 2.

<sup>3</sup> F. Codera y Zaidin, *Tratado de Numismática Arábigo-Española* (Madrid, 1879).

in the marginal legends of Codera's piece coincide exactly with those of the ANS coins in question. The certainty that the latter was the same piece illustrated by Codera led me to see if other coins in the lot could be found in Codera's plates. In fact, eight examples are, in my opinion, to be identified with pieces reproduced by the author.<sup>4</sup>

All the coins so identified belonged, at the time Codera wrote, to the Arabist D. Pascual de Gayangos.<sup>5</sup> Moreover, all of them have the same inventory number, HSA 57.2138; only one piece with that inventory number, no. 11 of the catalogue, is not to be found on Codera's plate.<sup>6</sup> So, of the 18 coins in the present catalogue, 10 are previously published in a sense; but few of the coins drawn by Codera were described in his work, while the two coins described by Walker were not illustrated. The present catalogue provides full descriptions and photographic illustrations of all 18 coins. In addition, weights of all the coins of this series in the ANS cabinet are given, including those in Walker's cata-

<sup>4</sup> The coins in question are nos. 3, 4, 5, 7, 9, 14, 15, and 18 of the present catalogue.

<sup>5</sup> Pascual de Gayangos is one of the founders of the modern school of Spanish Arabists. Born in Seville in 1809, he died in London after 1881. On his life and work see J. T. Monroe, *Islam and the Arabs in Spanish Scholarship* (Leiden, 1970), pp. 67-83; M. Manzanares de Cirre, *Arabistas españoles del siglo XIX* (Madrid, 1972), pp. 83-101.

<sup>6</sup> To clarify the situation, two separate bodies of material were transferred by the Hispanic Society of America on permanent loan to the ANS. The coins in the first loan, transferred in 1946-48, had already been assigned individual inventory numbers. All the HSA coins published by Walker and all the coins in Miles's *The Coinage of the Umayyads of Spain* (ANS Hispanic Numismatic Series 1 [New York, 1950], hereafter *CUS*) were from this first loan. Then, in 1957, another collection of coins was found by the HSA. These coins were assigned inventory numbers by Miles as he unwrapped the packages. Numbers were assigned not to individual coins, but to batches, and were preceded by 57. to distinguish them from the earlier loan. The number 57.2138 was assigned to the nine early transitional issues in the loan. In a handwritten note at the time the 1957 coins were received, Miles remarked that nearly all the Islamic coins in the lot were in distinctive envelopes, and that two packets of these envelopes contained slips of paper with the name Gayangos. He suspected that most of the 1957 HSA Islamic coins were from that collection. The 1957 loan included 8,984 items. Many of these were not Islamic, but in that department nearly every Spanish and North African series was well represented. For example, the combined HSA/ANS holdings of the coins of the Umayyads of Spain were increased about 40 percent over the number listed by Miles in his 1950 catalogue.

logue, for the weights noted by him were obtained on an older inaccurate balance. The gold content of all 27 dinars has been determined by the specific gravity method (see Table 1).

When the Arabs retook Carthage in 79 H./A.D. 699, they followed their own precedent of earlier conquests by issuing coins which perpetuated the types previously struck in the region. Even though a new distinctively Islamic coinage was being introduced in the East at the same time, in 77–79/697–99, the province of Ifriqiyya (Roman Africa) continued its own Byzantine inspired coinage until 100/718–19. In Spain, conquered 92/711, the Arabs introduced coinage of this North Africa type, with no influence from the previous Visigothic coinage of Spain.<sup>7</sup>

The typology of the transitional series of North Africa and Spain can be summarized as follows:

A. Iconographic type, imitating Byzantine issues of the mint of Carthage with the busts of Heraclius and his son Constantine; Latin legends; issued in gold and copper in North Africa only, ca. 79–85/699–704.<sup>8</sup>

B. Iconographic types derived from ancient North African and Spanish prototypes, such as wheat-ears, fish, male busts, horsemen, etc.; Arabic legends; copper only, in North Africa and perhaps Spain; uncertain chronology.<sup>9</sup>

C. Epigraphic type, with inscriptions only.

- 1) Latin epigraphic type; Muslim religious formulae in abbreviated Latin translation; gold only; North Africa, dinars, 85–95; fractions to 98; Spain, dinars, 93–95; fractions to 98(?).<sup>10</sup>

<sup>7</sup> The evolution of the North African and Spanish transitional issues is fully described in A. M. Balaguer Prunes, *Las emisiones transicionales árabe-musulmanas de Hispania* (Barcelona, 1976); see also Balaguer, "Descripción y comentarios de doce monedas transicionales árabe-musulmanas acuñadas en el Norte de África," *GacNum* 43 (Dec. 1976), pp. 32–38, (hereafter *Des. y Com.*).

<sup>8</sup> See Balaguer, *Las emisiones* (above, n. 7), p. 19.

<sup>9</sup> See Balaguer, *Las emisiones* (above, n. 7), pp. 19–22.

<sup>10</sup> See Balaguer, *Las emisiones* (above, n. 7), pp. 22–24.

- 2) Bilingual epigraphic type; Latin and Arabic legends; gold only;  
North Africa, 97–99;<sup>11</sup> Spain, 98.<sup>12</sup>

The present catalogue contains 18 coins, classified as follows:

*North African issues*

- 1 third-dinar, two imperial busts
- 1 dinar, Latin epigraphic type
- 3 half-dinars, Latin epigraphic type
- 2 third-dinars, Latin epigraphic type

*Spanish issues*

- 10 dinars, Latin epigraphic type
- 1 half-dinar, Latin epigraphic type

Within the two geographic divisions, the coins in the catalogue are ordered chronologically and by denomination. The Spanish dinars all bear the same date (Indiction XI). For this reason and because of the diversity of the legends, which are not always clearly legible, it is difficult to devise an adequate typological order. Considering that the most visible characteristic of these coins is the central legend of the reverse, I have elected to order them according to the variants presented by this legend. Within this initial order I have placed first the coins

<sup>11</sup> Until recently, the date 99 for Africa was not recorded, but an example clearly reading XC<sup>VIII</sup> is to be found in the collection of Rudolph Morgenstern, Barcelona, published by me in "Descripción y comentarios" (above, n. 7), pp. 38, 48, no. 12. Since that publication, I have found a piece described as having the date XC<sup>VIII</sup> in the catalogue of the Lorichs collection, but the author in his interpretation of the legend inexplicably reads the date "nonaginta et octo." Since the work lacks illustrations, it is impossible to say where the error lies (D. Antonio Delgado, *Catalogue des monnaies et des médailles antiques du Moyen Age et des temps modernes, composant le cabinet numismatique du feu Mr. Gustave David de Lorichs* [Madrid, 1857], p. 260, no. 4679).

<sup>12</sup> See Balaguer, *Las emisiones* (above, n. 7), pp. 69–75. On the absence of gold emissions in Spain during the years 96–97, 99–101, and after 127, M. Barcelós's important article, "El hiato en las acuñaciones de oro en al-Andalus, 127–316 (744–936)," *Moneda y Crédito* (March 1975), pp. 33–71, is supported by J. Devisse, "La question d'Audagurt," *Tagdaoust I* (1970), pp. 109–57, an article not known to Barceló when he wrote.

which have the most typical and complete marginal legends. In the first place I have put the dinars with the reverse central legend retrograde, not because this is prototypical, but because of the circumstance that the dinar with the most clearly written and most prototypical marginal legends belongs to this group. The next to last coin, a dinar apparently of silver with the reverse central legend NNI...IIS, has been placed there because of that completely anomalous legend.

It would be prolix and tedious to discuss in detail the epigraphical peculiarities of these coins. The basic alphabet of the Latin legends is the ancient capital letters; the letters D and L are sometimes represented by Greek delta and lambda. Letters may be inverted or reversed; letters such as N and X sometimes degenerate into H or II. Owing to the crudeness of these coins and the degree of wear of many of them, their reading is not easy. On occasion one may notice between the letters small protrusions which may be traces of recut letters or merely small die defects.<sup>13</sup>

In general, the African coins offer fewer difficulties in reading than the Spanish. One should note also that the Spanish fractions and the Latin legends of the bilingual dinars offer fewer difficulties than the Latin dinars.

## CATALOGUE

1. One-third dinar, two imperial busts type. Struck in North Africa before 85 H.

*Obv.:* Center: Two busts facing, crowned.

Margin: ... SESESOLCISE ...

*Rev.:* Center: Column on steps

Margin: ... MA~~S~~SE~~D~~NS ...

1.382 g; 12 mm; 89 % Au.

ANS 1944.100 (Newell Bequest) = Elder Auction, 19 Nov. 1932, 964. Similar to Walker 149; the obverse legend is like that of Walker HSA 1 in that both repeat the letter group SE.

<sup>13</sup> For a detailed study of Latin epigraphy on these coins, see J. M. de Navascues, "Los sueldos Hispano-Arabes," *NumHisp* 8 (1959), pp. 5-66.

The legends may be interpreted:

*Ov.*: On this coin SE replaces IP.

*Rev.*: This legend is somewhat anomalous; ordinarily one finds:  
MAETOMNAN = MAGnus ETernus OMNiA Noscens.

Perhaps it may be interpreted as: MAGnus Eternus DomiNuS.

2. Dinar, Latin epigraphic type. Struck in Africa. Indiction IIII (87/88 H.)

*Ov.*: Center: NICRETR

Margin: 6SE[TERN ?]S6S[MAG]N6SoM

*Rev.*: Center: RCIN6III

Margin: INN[DNI]LUSRCS[L]...INA

4.270 g; 13.5 mm; 88 % Au

ANS 1959.258. The obverse legends are identical to those of the one-third dinar Walker Th. 3 and similar to those of the dinar Walker C. 11. It should be noted that in these examples, the obverse central legend is not retrograde (TERCIN) as is more common.

The interpretation of these legends is:

*Ov.*: DeuS ETERNuS DeuS MAGNus DeuS OMNI CREaToR

*Rev.*: IN Nomine DomiNi MISeRiCordis S[o]Lidus FEritus] IN Africa INDictione IIII

Note that the central legend on both sides concludes the legends of the respective margins.

3. Half-dinar, Latin epigraphic type. Struck in North Africa (85-95 H.)

*Ov.*: Central: SIMIĀZ

Margin: NNE2δ2NI2VN...V

*Rev.*: Central: I

Margin: INVδNIMSRC2kδFRTINAFC

2.040 g; 10 mm; 87 % Au

HSA 57.2138.1 = Codera, pl. 1, no. 1 = Walker Cod. 3. According to Codera, the coin was then in the Gayangos collection.

Its legends are to be interpreted:

*Obv.:* NoN ESt DeuS NISi UNUs [Cui NoN est alius] SIMILiS

*Rev.:* IN Nomine DomiNI MiSeRiCordis SoLiDus FeRiTus IN AFriCa

4. Half-dinar, Latin epigraphic type. Struck in North Africa (85-95 H.).

*Obv.:* Central: SIMILiS

Margin: [NN...S] NISVNSCVNN2AΛ I

*Rev.:* Central: Ι

Margin: ... FRTINA FR

2.031 g; 11.5 mm; 86 % Au

HSA 57.2138.2 = Codera, pl. 1, no. 3 (Guyangos) = Walker Cod. 4.

The legends are similar to those of no. 3 and may be interpreted:

*Obv.:* [NoN ESt DeuS] NISi UNuS CUi NoN eSt ALiUs SIMILiS

*Rev.:* As no. 3.

5. Half-dinar, Latin epigraphic type. Struck in North Africa (85-95 H.)

*Obv.:* Center: SINIKS

Margin: NNE2δ AΛI

In the upper area at about 10 o'clock, one can distinguish a blob, perhaps the letter S, aligned in the same direction as the central legend.

*Rev.:* Center: Ι

Margin: NIM RCS[L?]DFRTI...

2.029 g; 10 mm; 82 % Au

HSA 57.2138.3 = Codera, pl. 1, no. 4 (Gayangos).

The interpretation of the legends is analogous to that given for nos. 3 and 4 above.

6. One-third dinar, Latin epigraphic type. Struck in North Africa (85-95 H.)

*Obv.:* Center: SIMILiS

Margin: ... NI2VNC...

*Rev.*: Center: I

Margin: [INN&NIM2RC2&FRTINAF?]

1.334 g; 9 mm; 82 % Au.

ANS Gift of E. T. Newell, 1917 (acquired by him in Genoa) = Miles, *Rare Islamic Coins*, no. 55, pl. 4; mentioned by Walker, p. 67, note to no. 173. Although the reverse margin of this coin is illegible, the die appears to be the same as Walker 173; I have therefore given in brackets the legend as read by him.

The interpretation of the legends is analogous to that of no. 3 above.

7. One-third dinar, Latin epigraphic type. Struck in North Africa (85–95 H.).

*Obv.*: Center: [R?] TERCIN (NICRETR, retrograde)

Margin: M...6H...

*Rev.*: Center: I

Margin: NN6NIM...

1.365 g; 10 mm; 83 % Au

HSA 57.2138.4 = Codera, pl. 1, no. 8 (Gayangos). Resembles Walker 176 and HSA 6. The obverse legends are probably as Walker (see no. 2 above). The R at the beginning of the obverse central legend is effaced by wear.

8. Dinar, Latin epigraphic type. Struck in Spain. Indiction XI (94 H.)

*Obv.*: Center: Star with 8 points.

Margin: INN&NIN&SNS&2ZL2N

*Rev.*: Center: IX & NI (INDCXI inverted)

Margin: 2L&FRTIN2qNANNXCIII(?)

3.780 g; 13 mm; 52 % Au

HSA 13222 = Walker HSA 7 (not illustrated) = Balaguer 7. The inversion of the reverse central legend occurs often on these coins. The remaining legends are very well executed and may be considered as prototypical of Spanish dinars.

The interpretation of the legends is as follows:

*Obv.:* IN Nomine DomiNi Non DeuS NiSi DeuS SoLuS Non socius

*Rev.:* INDiCtione XI

SoLiDus FeRiTus IN SPaNia ANNo XCIII

9. Dinar, Latin epigraphic type. Struck in Spain. Indiction XI (94 H.)

*Obv.:* Center: Star with 8 points.

Margin: INNδNIN...SNδNδ  
(partly off flan)

*Rev.:* Center:  $\overline{IX} \gtreqless \overline{VI}$  (INDCXI retrograde)

Margin: [ID?] SδFRTINSPI[NI...IIIXIII?]

3.466 g; 17 mm; 48 % Au

HSA 57.2138.5 = Codera, pl. 1, no. 25 (Gayangos). Similar to Navascués 9 = Balaguer 10; the legend appears to have been engraved by the same hand. Note the close analogy in the ductus of the letter D in the indicational legend of both coins.

The obverse legend may be interpreted:

IN Nomine DomiNI Non [DeuS NiSi DeuS SoLu]S Unicus (N for U?) DeuS Non alias Deus.

The content of the reverse marginal legend is analogous to that of no. 8 above.

10. Dinar, Latin epigraphical type. Struck in Spain. Indiction XI (94 H.)

*Obv.:* Center: Star with 8 points.

Margin: ... 27CIMVN122δIII?

*Rev.:* Center:  $\overline{IXC} \gtreqless \overline{H}$  (INDCXI, retrograde)

Margin: INNH1...N1Γ2δ

3.383 g, 12.5 mm; 23 % Au

HSA 13218 (mentioned, Walker, p. 75, note to no. HSA 7). The marginal legends of obverse and reverse are anomalous. The central legend of the reverse is retrograde like coin no. 9 of this catalogue, but there is no possibility of doubt about the date XI.

11. Dinar, Latin epigraphic type. Struck in Spain. Indiction XI (94 H.)

*Obv.*: Center: Star with 8 points

Margin: ININΔNNIISLSSΔSNSΔ

*Rev.*: Center: INΔCXI

Margin: IIIIXNN^NISNINIRFSΔISN

(NSLDSFRININSPNANNXIII retrograde)

3.508 g; 11 mm; 29 % Au

HSA 57.2138.6 (apparently the same dies as a coin in the Instituto de Valencia de Don Juan, Madrid [Navascués, no. 15, pl. 2, 7 = Balaguer, no. 18]).

The obverse legend may perhaps be interpreted:

IN I Nomine Domini [III SI?] SoLuS Sed DeuS Non Socius Deo  
The inscription on the reverse is analogous to that of coin no. 8 above, except for the N at the beginning, which may stand for Numus, and the omission of C from the date. This latter anomaly is seen also on Navascués nos. 13 and 14 = Balaguer 20 and 19.

12. Dinar, Latin epigraphic type. Struck in Spain. Indiction XI (94 H.).

*Obv.*: Center: Star with 8 points.

Margin: NN IHINI2 [Δ ... HSΔIII?]

*Rev.*: Center: INΔCXI

Margin: NN SL[2Δ... FR IIIIT^ΔI?]

4.476 g; 14 mm; 4 % Au

HSA 15945 (mentioned Walker, p. 74, note to no. 181). Because of the bad state of preservation of this dinar and the crudeness of the characters, the reading is somewhat doubtful. The central legend of the reverse is the only part which is absolutely clear. It is similar to that of Walker 181 = Balaguer 12.

13. Dinar, Latin epigraphic type. Struck in Spain. Indiction XI (94 H.).

*Obv.*: Center: Star with 8 points.

Margin: INNΔNIN[Δ2NSΔS?]SLSN

*Rev.:* Center: **INΔCXI.**

Margin: **HISLΔFRTIN2PNA . . .**  
(remainder off flan)

4.259 g; 12 mm; 65 % Au

HSA 13220 (mentioned Walker, p. 74, note to no. 181). Same dies as Vives 2 = Navascués 12 = Balaguer 25 (in the Museo Arqueológico Nacional, Madrid). The legends are the same as those of no. 8, except that the reverse margin begins with HI = HIC.

14. Dinar, Latin epigraphic type. Struck in Spain. Indiction XI (94 H.).

*Obv.:* Center: Star with 8 points.

Margin: **NI6NIII6IIIN . . . SSS6SN16**

*Rev.:* Center: **INΔCXI.**

Margin: **. . . NS9NANXCIII :**  
(remainder off flan)

3.384 g; 11 mm; 54 % Au

HSA 57.2138. 7 = Codera, pl. 1, no. 16 (Gayangos). Similar to Navascués 11 = Balaguer 13, with the same style of lettering. The legends are handsomely engraved, but the letters of the obverse are ordered in an atypical form and no adequate interpretation suggests itself. Nevertheless, it must be a religious slogan analogous to those of other such coins. The reverse inscription is completely typical and to be interpreted as those of nos. 8 and 9 above.

15. Dinar, Latin epigraphic type. Struck in Spain. Indiction XI (94 H.).

*Obv.:* Center: Star with 8 points.

Margin: **NIIΔ[H] IN[6]NΔ22NΙΔNSL 2Δ[H ?]**

*Rev.:* Center: **INΔ<XI.**

Margin: **62LΔ2IIII . . . [IIII^K]CXII**

3.731 g; 12 mm; 11 % Au

HSA 57.2138.8 This is apparently the same coin as Codera, pl. 1, no. 17 (Gayangos), although that author gives it a substantially lower weight (3.05 g). The gold is very pale, as Codera also ob-

served (*Tradato*, p. 46). The obverse legend is similar to Navascués 7 = Balaguer 6. The reverse is like nos. 13 and 14 above in having a point after XI.

The interpretation of the obverse legend may be:

iN Nomine DomiNI Non Deus Nisi DeuS [SiM]ilis Deus est Unicus?] SoLuS DeuS

The reading of the reverse margin is too doubtful to offer an interpretation.

16. Dinar, Latin epigraphic type. Struck in Spain. Indiction XI (94 H.).

*Obv.*: Center: Star with 8 points.

Margin: INNINNS...LSNST

*Rev.*: Center: IH[...]C[...]XI (INDCXI)

Margin: H[...]L[...]FRTIN[...]PNHNXCIII

4.710 g; 10 mm; 74 % Au

HSA 13221 = Walker HSA 8 (not illustrated) = Balaguer 9. As Walker noted, the obverse and reverse are similar to Codera pl. 1, no. 18 = Nützel 75. The latter author interpreted the date as Indiction VI, but the chronology of the conquest of Spain makes this interpretation impossible. Despite the anomalies to be observed at the beginning of the obverse legend, I would suggest the following interpretation:

IN Nomine domINI NiSi [DeuS S]oLuS NoSTer.

The reverse marginal legend is analogous to that of coins 8 and 9 above.

17. Dinar, Latin epigraphic type. Struck in Spain. Indiction ?

*Obv.*: Center: Star with 8 points.

Margin: NN|[...]NN[...]IN[...]ZI?|628

*Rev.*: Center: Indictional legend very worn.

Margin: NN[...]IIS

3.606 g; 12 mm; 0 Au (90 % Ag?)

HSA 13219. The legends are so much effaced or badly cut as to preclude citation of any similar specimen. The indictional legend can be traced but not read. The coin appears to be entirely of silver.

**18. Half-dinar, Latin epigraphic type. Struck in Spain (93–98 A.H.).**

*Obv.*: Center: Star with 8 points.

Margin: FEITO22LIIN2PANANI

*Rev.*: Center: I

Margin: FERITO22OLIIN2PANAN

1.932 g; 11 mm; 81 % Au

HSA 57.2138.9 = Codera, pl. 1, no. 12 (Gayangos). Same dies as Navascués 29 = Balaguer 59 (Instituto de Valencia de Don Juan, Madrid).

The legends must be interpreted:

*Obv.*: FERITOS SOLIdus IN SPANia ANno

The date is omitted, and the final I is perhaps a division line.

*Rev.*: FERITOS SOLIdus IN SPANia ANno (variant of the obverse legend).

The accompanying table gives the weight and estimated gold fineness of every Umayyad Maghribi dinar in the ANS cabinet. The Latin inscription coins previously published by Miles and Walker<sup>14</sup> are included, as well as those in the preceding catalogue. Six reformed gold coins with Arabic legends only, dated 102 and 103 H., are also included; the latter date is the latest Umayyad Maghribi gold coin in the ANS.

The specific gravity figures are an average of three separate determinations for each coin made on different days. When the first three determinations did not agree closely, a fourth and sometimes a fifth determination was made, until three consistent figures were obtained. The immersion liquid was distilled water, and the variation of its density with temperature was taken into account. The specific gravities were converted into estimated gold fineness using the table provided by Oddy and Hughes, interpolating where appropriate.<sup>15</sup> That table is

<sup>14</sup> G. C. Miles, "Some Early Arabic Dinars," *ANSMN* 3 (1948), pp. 93–114 (hereafter SEAD); Miles (above, n. 2); Miles (above, n. 6); *BMCArabByz*. The abbreviations of these publications in the table are self-evident: Bal. = *Las emisiones*; Cat. = the catalogue in this article.

<sup>15</sup> W. A. Oddy and M. J. Hughes, "The Specific Gravity Method for the Analysis of Gold Coins," in *Methods of Chemical and Metallurgical Investigation of Ancients Coinage* (London, 1972), p. 81.

valid only for coins alloyed of gold and silver; if copper is also present, the fineness figures would have to be revised upward somewhat. Since no analyses of these coins have been made by a method other than specific gravity determination, it is impossible to say if copper is present in the coins. If future analyses find copper to be an important constituent of the alloy, the gold fineness can be recalculated using the specific gravity figures given here. One Spanish dinar, number 26 in the Table, appears silver to the eye and has a specific gravity indicating no gold content; its silver content has therefore been estimated using a table provided by Caley.<sup>16</sup>

The results here are in general agreement with data for coins in the British Museum and Barcelona published previously by Balaguer,<sup>17</sup> but not with the data provided to her by the Fitzwilliam Museum for coins in the Philip Grierson collection (including not only the coins so designated in her table, but also nos. C 51 and C 51 *bis*). New analyses of the Fitzwilliam coins, made by W. A. Oddy of the British Museum, are given in Table 2 below. The fineness of the five Spanish reformed dinars in Table 1 below was previously determined by Ehrenkreutz;<sup>18</sup> the two sets of figures are given here for comparison:

<i>Number in Table</i>	<i>Ehrenkreutz's Result</i>	<i>Present Result</i>
29	97	98
30	95	98
31	91	95
32	91	97
33	99	99

<sup>16</sup> E. R. Caley, *Analysis of Ancient Metals* (New York, 1964), p. 65, table 25.

<sup>17</sup> Balaguer, *Las emisiones* (above, n. 7), p. 99, table 4.

<sup>18</sup> A. S. Ehrenkreutz, "Studies in the Monetary History of the Near East in the Middle Ages: The Standard of Fineness of Some Types of Dinars," *JESHO* 2 (1959), p. 156. No. 32 in the table is recorded by Ehrenkreutz as "n.n. (*thulth*);" the remainder are identified by their HSA numbers.

A possible indication of accuracy may be provided by a group of six die-linked coins in the British Museum and in the ANS;<sup>19</sup> based on determinations made at the two institutions, the finenesses ranged from 83.5 % to 86 %.

From the data presently available, one can make only tentative generalizations. African issues up to 97/715, with Latin inscriptions, with or without images, range from 80 to 90 % gold, with no clear chronological pattern. Spanish Latin issues up to the same date were generally much debased and varied widely in fineness, from no gold at all up to 85 %. For the bilingual coinage of 97–99 H., reliable data is available only for three African dinars, which range from 66 to 72 % gold. The two bilingual Spanish dinars of 98 H. in the Fitzwilliam Museum have finenesses of 72 and 75 %. The introduction of reformed dinars with Arabic inscriptions only brought with it a marked change in regulation of fineness: the three dinars analyzed are 98 or 99 % fine, while the fractions range from 95 to 98 % (the difference is more likely caused by unavoidable error in determining the specific gravity of smaller coins than by a deliberate mint policy of striking fractions with a different alloy from unit coins).

In the Tables, the Latin coins of Africa are briefly identified by the obverse central legend; their sequence in the Tables corresponds to the chronological sequence imposed by the dated dinars. Reformed Arabic legend coins are identifiable by date and weight in grams.

<sup>19</sup> The die links were recognized by Walker; the coins in question are his nos. 170, 171, 172, and 177, and in the ANS nos. 3 and 4 of the Table.

TABLE 1  
Coins in the American Numismatic Society

No.	Acc. No.	Desc.	Publ.	Wt(g)	Spec. Grav.	Est. Au Content(%)
<b>AFRICA</b>						
1	HSA 8142	images	BM no. HSA.1	4.310	17.67	89
2	1944.100	images	Cat. 1	1.382	17.65	89
3	HSA 8139	ICRETR	BM no. HSA.3	2.043	17.13	84
4	HSA 13224	IMICRA	BM no. HSA.4	2.089	17.25	86
5	HSA 8141	OMNICR	BM no. HSA.5	2.018	17.27	86
6	HSA 8140	RTERCIN	BM no. HSA.6	1.411	17.44	87
7	HSA 57.2138.4	RTERCIN	Cat. 7	1.365	16.96	83
8	1959.258	NICRETR	Cat. 2	4.270	17.57	88
9	Newell, 1917	SIMILS	RIC 54	2.003	17.26	86
			BM no. ANS. 13			
10	HSA 57.2138.1	SIMILS	Cat. 3	2.040	17.37	87
11	HSA 57.2138.3	SIMILS	Cat. 5	2.029	16.86	82
12	Newell, 1917	SIMILS	RIC 55	1.334	16.79	82
			BM, p. 67 n.			
			Cat. 6			
13	HSA 8138	SIMILIS	BM no. HSA.2	1.989	16.11	76
14	HSA 57.2138.2	SIMILIS	Cat. 4	2.031	17.34	86
15	1971.49	102 H.	Unpubl.	4.299	19.12	99
<b>SPAIN</b>						
16	HSA 13222		BM no. HSA.7	3.780	13.83	52
		Bal. 7				
		Cat. 8				
17	HSA 57.2138.5		Cat. 9	3.466	13.54	48
18	HSA 13218		BM p. 75 n.	3.383	11.76	23
		Cat. 10				
19	HSA 57.2138.6		Cat. 11	3.508	12.15	29
20	HSA 15945		BM p. 74 n.	4.476	10.69	4
		Cat. 12				
21	HSA 13220		BM p. 74 n.	4.259	14.98	65
		Cat. 13				
22	HSA 57.2138.7		Cat. 14	3.384	13.97	54
23	HSA 57.2138.8		Cat. 15	3.731	11.06	11
24	HSA 13221		BM no. HSA.8	4.710	15.91	74
		Bal. 9				
		Cat. 16				
25	Newell, 1917		RIC 56	4.264	14.86	64
		BM no. ANS. 14				

26	HSA 13219		Cat. 17	3.606	10.31	0 (90 % Ag)
27	HSA 13162		BM no. HSA. 9	1.921	17.21	85
28	HSA 57.2138.9		Cat. 18	1.932	16.65	81
29	HSA 13159	102 H.	SEAD 72	4.330	19.08	98
			CUS 2 (a)			
			BM no. HSA. 10			
30	HSA 13161	102 H.	SEAD 73	2.130	18.99	98
			CUS 2 (b)			
			BM no. HSA. 11			
31	HSA 13212	102 H.	SEAD 74	1.424	18.63	95
			CUS 2 (c)			
			BM no. HSA. 12			
32	Newell, 1917	102 H.	SEAD 75	1.431	18.86	97
			CUS (2c)			
			RIC 65			
33	HSA 13211	103 H.	SEAD 78	4.313	19.15	99
			CUS 3			
			BM no. HSA. 13			

TABLE 2  
Grierson Collection Coins in the Fitzwilliam Museum

Nos.	Inv. No.	Desc.	Publ.	Wt(g)	Spec. Grav.	Est. Au. Content (%)
AFRICA						
1	CG 389:02	images	Des. y Com. 1	1.425	17.31	86
2	CG 389:04	images	Des. y Com. 2	1.394	17.21	85
3	CG 389:01	images	Des. y Com. 3	1.320	17.42	87
4	CG 389:03	images	Des. y Com. 4	1.360	18.25	93
5	CG 389:05	RTERCIN	Des. y Com. 5	4.253	17.17	85
6	CG 389:10	CRETRN	Des. y Com. 11	1.408	18.86	97
7	CG 389:06	SIMILS	Des. y Com. 7	2.023	17.46	87
8	CG 389:07	SIMILS	Des. y Com. 8	1.993	17.07	84
9	CG 389:08	SIMILS	Des. y Com. 9	2.050	17.36	86
10	CG 389:09	SIMILS	Des. y Com. 10	1.336	16.76	82
SPAIN						
11	CG 297:01	bilingual	Cat. 51	4.151	16.05	75
12	CG 380:14	bilingual	Cat. 51 bis	4.131	15.71	72



THE WORK OF AL-HASAN B. MUHAMMAD,  
DIE ENGRAVER AT İŞBAHĀN  
AND AL-MUHAMMADIYYA

(PLATES 48–49)

CAROL MANSON BIER

Four Büyid coins in the collection of the American Numismatic Society, struck between 358–68 H./A.D. 968–79 at two mints in Jibāl province, illustrate a phenomenon unique in the history of Islamic coinage.<sup>1</sup> They concern the status of a die engraver named al-Hasan b. Muḥammad. A silver dirham bearing his signature was first noted by George C. Miles and published in 1938.<sup>2</sup> It was at that time the only Islamic coin known to bear the signature of a die engraver. More recently, four additional coins have been located which shed more light upon the career of this artisan. His signature occurs on two of these coins, one like that described by Miles struck in İshbān in 358, the other struck in al-Muhammadiyya in 362. The later issue, however, shows an erasure of his name, leading to the speculation that he fell out of favor and his name was obliterated, or that he was forced to remove his signature from the die.

The sequence begins with the dirham published by Miles, which was issued by the Büyid Mu'ayyad al-Dawla governing İshbān.

<sup>1</sup> The findings presented here were noted during the course of my research on the coinage of Jibāl province, Iran, 364–89 H./974–98 A.D., carried out at the 1977 ANS Graduate Seminar under the guidance of Michael L. Bates, Curator of Islamic Coins. I wish to acknowledge my gratitude to the ANS for providing me with a grant-in-aid to attend the seminar, and for the encouragement and advice offered by the curators and staff.

<sup>2</sup> G. C. Miles, "Note on a Die Engraver of İshbān," *Ars Islamica* 5 (1938) 100–3. The coin is now in the collection of the ANS. It is listed in L. A. Mayer, *Islamic Metalworkers and Their Works* (Geneva, 1959), p. 44.

358 H. Iṣbahān

Mu'ayyad al-Dawla/'Adud al-Dawla/Rukn al-Dawla/al-Muṭī' lillāh

*Obv.:*<sup>3</sup>

Central Area

لَا إِلَهَ إِلَّا اللَّهُ  
 وَحْدَهُ لَا شَرِيكَ لَهُ  
 الْمُطْيِعُ لِلَّهِ  
 رَكْنُ الدُّولَةِ  
 أَبُو عَلَى  
 بُوْيَهُ

*Rev.:*

Central Area

اللَّهُ مُحَمَّدُ رَسُولُ اللَّهِ  
 عَضْدُ الدُّولَةِ  
 أَبُو شِجَاعٍ  
 مَوْئِدُ الدُّولَةِ  
 أَبُو مُنْصُورٍ  
 بُوْيَهُ

Inner margin

بِسْمِ اللَّهِ ضُرِبَ هَذَا الدِّرْهَمُ  
 بِأَصْبَاهَانِ سَنَةِ ثَمَانِ وَخَمْسِينَ وَثَلَاثَمَائَةٍ

Linear circle

Outer margin  
 (Qur'ān XXX, 3-4)

لَهُ الْأَمْرُ مِنْ قَوْمٍ عَمِيلٍ  
 وَمَنْ بَعْدَ وَيَوْمَئِذٍ يَفْرَحُ الْمُؤْمِنُونَ بِنَصْرِ اللَّهِ

Margin  
 (Qur'ān IX, 33)

Linear circle

Four annulets ○ ○ ○

Double linear circle

Four annulets ○ ○ ○

Crackled surface.

AR 4.95 g; 31 mm Plate 48, 1 (detail, Plate 49,1)

ANS 70.74 G. C. Miles Gift (Acquired in Iṣfahān 1935).

G. C. Miles, "Note on a Die Engraver of Iṣfahān," *Ars Islamica* 5 (1938), 100-3.L. A. Mayer, *Islamic Metalworkers and Their Works* (Geneva, 1959), p. 44.

<sup>3</sup> The obverse is here designated as that face with the *kalima* (*lā ilāh illā allāh*), which in the coins discussed below also bears the mint-date formula.

The coin is unusual because it bears on the obverse, in addition to the standard legends in the central area and two circular margins, a tiny inscription within the outer margin: ‘*amal al-Hasan b. Muḥammad*’ (“the work of Ḥasan, son of Muḥammad”). This form of signature is encountered frequently in signed monuments and works of art. On the coin it appears in low relief, measuring 5 mm in length by 1.5 mm in height. It was engraved in the die above the ligature between the *qāf* and *bā'* of the word *qabl* in the outer marginal legend (Qur’ān XXX, 3–4; see detail Plate 49, 1).<sup>4</sup> The horizontal ligature between the two letters is elongated to accommodate the miniature inscription, indicating that the inclusion of the name was anticipated by the engraver before he began work on the die.

Although it is almost invisible without magnification, the signature is finely and artistically executed. Its epigraphic style is distinctive, differing from that of the central area and marginal legends not only in scale and proportion but also in the form of the letters. In the miniature inscription the vertical shafts of the letters are tall and narrow and carefully spaced. The upper tips of the letters *lām*, *alif*, *bā'*, *nūn*, *hā'* and *dāl* have oblique terminals with a concave face, as if they were drawn with a nibbed pen. The tips are provided with serifs which extend slightly beyond the normal width of the vertical shafts, lending the inscription an elegant appearance.

In contrast the regular legends of the obverse are executed in an unadorned linear Kūfic script. The tips of the vertical letters are left unfinished, retaining in their uniform thickness and rounded profiles the shape of the engraving burin. The only embellishment may be seen in the rising tails of the *rā'* and *yā'* of the name Rukn al-Dawla with his *kunya* abu ‘Alī. The letters are stubby and squat and their arrangement is generally crowded. As usual, there is little if any distinction between letters of similar form. The horizontal ligatures of the obverse legends are very short and sometimes omitted entirely. Two exceptions are notable, where the ligature is extended between the *'ain* and *lām* of 'Alī in the central area, and between the *qāf* and *bā'*.

<sup>4</sup> Note that the word order of the outer margin is transcribed incorrectly in Miles, “Engraver” (above, n. 2), p. 100.

in the outer margin. Neither of these elongations is unusual on coins issued from mints in northern and central Iran during this decade.<sup>5</sup> But the extent of elongation between the *qāf* and *bā'*, and the fact that it serves to support an additional legend is exceptional.

The reverse legends of this coin appear to be less crowded than those on the obverse since there is only one marginal inscription. Four annulets project beyond the double linear circle which surrounds the margin. The inner circle of the pair is thinner and appears in lower relief. The style of the epigraphy is similar to that on the obverse.

A second example struck from the same die with the signature of al-Hasan b. Muḥammad has recently been located.<sup>6</sup> All other known coins of Iṣbahān 358 were also issued by Mu'ayyad al-Dawla and carry the names of 'Aḍud al-Dawla, Rukn al-Dawla and al-Muṭī' illāh, but the disposition of these names on obverse and reverse varies, and none of the coins bears an additional miniature inscription.<sup>7</sup>

A silver dirham struck in Iṣbahān in 360 shares many of the same stylistic and epigraphic characteristics of the signed coins of 358.

<sup>5</sup> But compare Büyid coins struck at mints in Fārs and 'Umān during this and succeeding decades where Qur'ān XXX, 3–4, is omitted and there is usually only one obverse margin.

<sup>6</sup> It is currently in the collection of S. Album (Santa Rosa, California) to whom I am indebted for providing me with a description and a photograph. He acquired the coin in 1973. Its longest dimension is 29 mm. Both obv. and rev. are struck from the same dies as the ANS coin.

<sup>7</sup> I know of only four coins of Iṣbahān 358. These include the two with die engraver's signature discussed here, another specimen in the ANS (unpublished) with similar legend content in a different arrangement and without a die engraver's signature, and one listed by Markov (*Inventory*, p. 321, no. 78). I acknowledge with thanks I. Dobrovolsky, Curator of Early Islamic Coins at the Hermitage, who checked the coin of Iṣbahān 358 listed in Markov and informed me that it does not bear a signature. Miles had referred to this coin without having had the opportunity to view it. His suspicion that it is identical to the ANS signed specimen must thus be revised. I wish also to thank N. Lowick, Curator of Islamic Coins, Department of Coins and Medals in the British Museum, who kindly confirmed that there are no inscriptions additional to the standard legends on any of the coins in his department issued from Iṣbahān or al-Muhammadīya between 358 and 368. Dobrovolsky confirmed the same information for the collection in Leningrad.

360 H. Iṣbahān

Mu'ayyad al-Dawla/'Adud al-Dawla/Rukn al-Dawla/al-Muṭī' lillāh

*Obv.:*  
Central Area

لَا إِلَهَ إِلَّا اللَّهُ  
وَحْدَهُ لَا شَرِيكَ لَهُ  
الْمُطَبِّعُ لَهُ [sic]  
رَكْنُ الدُّولَةِ  
أَبُو عَلَى  
بُويَهْ

Inner margin

بِسْمِ اللَّهِ ضُرُبَ هَذَا الدِّرْهَمِ  
بِاصْبَهَانِ سَنَةِ سَتِينِ وَثَلَاثَةِ

*Rev.:*  
Central Area

الله  
محمد رسول الله  
عَضْدُ الدُّولَةِ  
أَبُو شَجَاعَ  
مَوْئِدُ الدُّولَةِ  
أَبُو مَنْصُورٍ  
بُويَهْ

Linear circle

Outer margin  
(Qur'ān XXX, 3–4)

لَهُ الْأَمْرُ مِنْ قَبْلِ  
وَمَنْ بَعْدَ وَيُؤْمِنُ ذَلِكَ بِنَصْرِ اللَّهِ

Margin  
(Qur'ān IX, 33)

Linear circle (worn)  
Crackled surface;  
AR 5.61 g; 31 mm Plate 48, 2 (detail, Plate 49, 2)  
ANS 71.316 E. P. Newman Gift (ex R. W. Morris)  
Previously inedited.

Linear circle  
double struck.

It preserves in its obverse layout an extremely elongated ligature between the *qāf* and *bā'* in the outer margin, but there is no additional inscription in this space. The content and disposition of names in the obverse and reverse legends are identical to the signed coins of 358. The letters *rā'* and *yā'* are again written with rising tails; the tail of the *yā'* is bifurcate. The *bā'* of *duriba* in the inner margin has been

lengthened to allow for the shorter date and the *hā'* of *hādhā* has a more pronounced point than the coin of 358. A *lām* is lacking in the name of the caliph, presumably an inadvertent omission by the die engraver. Although there are no annulets, the central area and flan diameters, the layout and arrangement of the legends, and the epigraphy all suggest that the die for the obverse of this coin was engraved by al-Hasan b. Muḥammad.

The unique significance of the signed issue of 358 is further emphasized by an examination of coins struck during the following years at nearby mints. Two coins in particular exhibit stylistic and epigraphic characteristics which relate them to the signed coins.

One is a dirham struck in al-Muḥammadiyya in 362<sup>8</sup> with an additional miniature inscription that was erased.

362H. al-Muḥammadiyya  
Rukn al-Dawla/al-Muṭī' lillāh

<i>Obv.:</i>	<i>Rev.:</i>
Central Area	Central Area
fleuron	
لا اله الا	الله
الله وحده	محمد
لا شريك له	رسول الله
امطاع الله	رکن الدولة
Linear circle	ابو على
	بويه
Inner margin	Double linear circle
بسم الله ضرب هذا الدرهم بالحمدية	
سنة اثنين وسبعين وثلاثة	Margin
	(Qur'ān IX, 33)

<sup>8</sup> The reading of the first digit is not entirely clear. The upper tips of five strokes are distinct. Yet the date 362 is certain because the coin was issued directly under the authority of Rukn al-Dawla in al-Muḥammadiyya. No other Būyid amīr is named in the legends. Rukn al-Dawla's death in 366 precludes either of the other two possibilities, 367 or 369.

Outer margin  
(Our'ān XXX, 3-4)

## Double linear circle

الله الامر من عمل الحسن بن محمد بل  
ومن بعد وينفذ يفرح المؤمنون بنصر الله

### Double linear circle : double struck.

**AR** 1 3.55 g; 29 mm Plate 48, 3 (detail, Plate 49, 3)

Previously inedited.

In the same position as the signature on the two coins of Iṣbahān 358 (Plate 48, 1), there is a single raised line of uneven thickness, evidence that the die was altered before this coin was struck. Beyond the upper edge of the raised line can be seen traces of several finely executed serifs on thin vertical shafts permitting a reconstruction of the signature of al-Hasan b. Muḥammad (see detail, Plate 49, 3). The inscription beneath the erasure is 5 mm long by 1.5 mm high, dimensions identical to those of the signature on the coins of 358. According to this reading we may extend the work of this die engraver to a second mint, one that was directly under the authority of Rukn al-Dawla.

The traces of the signature are still clearly visible although the marginal legends on the coin are very worn. The erasure was cut to the same depth as the regular legends exposing the tips of the miniature inscription in lower relief to less wear.

The letters in the central-area legend were more carefully engraved than on the earlier Iṣbahān issues. The vertical tips of the letters are cut obliquely and the shafts have a very slight taper. The final *hā'* has a raised stroke which is inclined and ends obliquely. And the 'ain of al-Muṭī' is provided with a trilobate flourish. The marginal legends are executed in linear Kūfic without adornment, but a refinement may be noted in the double linear circle which surrounds the outer marginal legend. The inner circle of this pair is thinner and carved in lower relief; it is interrupted by the vertical letters, giving a visually more pleasing effect.

Similar calligraphic considerations are evident in the central-area legend of the reverse. The slanted tips of the vertical letters have been elongated to fill the entire line. The *nūn* and *yā'* of Rukn al-Dawla's

name with his *kunya* have rising tails, and the upper stroke of the *dāl* also rises. The marginal inscription, however, is executed with considerably less care. As on the obverse, the inner linear circle is thinner, and interrupted by the taller letters.

The last coin to be considered in this discussion was struck in the year 368, also in al-Muhammadiyya.

**368 H. al-Muhammadiyya**

Mu'ayyad al-Dawla/'Aḍud al-Dawla/al-Ṭā'i' lillāh

*Obv.:*

Central Area  
fleuron

لَا إِلَهَ إِلَّا  
اللهُ وَحْدَهُ  
لَا شَرِيكَ لَهُ  
مُؤْيِدُ الدُّولَةِ  
أَبُو مُنْصُورٍ

Linear circle

*Rev.:*

Central Area

اللهُ  
مُحَمَّدٌ رَسُولُ اللهِ  
الظَّائِعُ لِللهِ  
امْلَكَ السَّيِّدَ  
عَضْدُ الدُّولَةِ  
وَتَاجُ امْلَةٍ

Double linear circle (worn)

Inner Margin

بِسْمِ اللَّهِ ضُرِبَ هَذَا الْدِرْهَمُ بِالْحَمْدِيَّةِ  
سَنَةُ ثَمَانِ وَسَتِينِ وَثَلَاثَةَ

Margin

(Qur'ān IX, 33)

Outer margin

(Qur'ān XXX, 3–4)

لَهُ الْأَمْرُ مَنْ قَرَّبَ مُحَمَّدًا وَعَلَىٰ بَلٍ وَمَنْ بَعْدَ  
وَيَوْمَئِذٍ يَفْرَحُ الْمُؤْمِنُونَ بِنَصْرِ اللهِ

Double struck;

AR 1 3.89 g; 26 mm Plate 48, 4 (detail, Plate 49, 4)

ANS 65.243H Purchase, 1965.

Previously inedited.

double struck.

Its relationship to the earlier coins is more problematic and ultimately rests on conjecture alone. The obverse in this case bears a tiny inscription (6 mm long by 1 mm high) within the margin in the same location as the signatures on the earlier issues (see detail, Plate 49, 4). But the content of the inscription is distinctly different, reading simply *Muhammad wa 'Alī* ("Muhammad and 'Alī"). Although these are common Muslim names, it is conceivable here that they refer specifically to the Prophet and the fourth orthodox caliph, whom the heterodox Būyids held to be Muhammad's rightful successor.

Epigraphic details distinguish this coin to some extent from the earlier issues discussed so far. The shafts of the *lām-alif* ligature are diagonal rather than vertical. The *rā'* of Mansūr has a rising tail. In the additional miniature inscription the *hā'* and *dāl* of Muḥammad have embellished tips and the *yā'* of 'Alī reverses itself and serves to underline the two names. On the reverse a rising *wāw* precedes the *laqab* of 'Adud al-Dawla. The fleuron which is located above the elongation between the *lām* and *hā'* of Allāh differs from that on the coin of 362. The fleurons of these two coins are both symmetrical and composite but the later form has a trilobate central element rather than a circular one.

The marginal legends on the obverse of the 368 coin are very worn. The letters are fat and squeezed together. Their surfaces are indistinct but enough of their upper tips is preserved to confirm the expected contents of the legends and to permit a clear reading of the date.

The existence of these five unusual coins struck at two mints in Jibāl between 358 and 368 suggests a development which may be summarized as follows. An artisan named al-Hasan b. Muḥammad was employed to engrave dies for the Būyid mint in Iṣbahān. On one of the dies for coins of 358 he engraved his own name, which appears on some but not all of the coins issued that year in Iṣbahān under the authority of Mu'ayyad al-Dawla. In the coin of 360 struck in Iṣbahān, we may recognize his hand even though his name is not present. It appears that he left a space for his signature in the same location on the die, but he did not actually sign it (see detail, Plate 49, 2). In 362 he was employed in the production of coins for Rukn al-Dawla issued from al-Muhammadiyya. Again he engraved his name in the die, but it was erased. Perhaps official permission to include his name was withdrawn;

possibly it had never been authorized. In coins issued from al-Muhammadiyya in 368, a new legend naming the Prophet and his son-in-law occupies the space where the signature of al-Hasan b. Muhammad appears on three earlier coins. The replacement may be seen as a pious invocation appropriate to the Büyid partisans of 'Ali.

#### COMMENTARY

Given the official sanction required for the minting of coins and the determination of their legends, the inclusion of the die engraver's name is most unusual and may be seen as an act of self-recognition. The subsequent omission of the signature in 360 and its obliteration in 362 lend support to this interpretation, but a definitive explanation for this exceptional sequence of coins will have to await the study of additional specimens, both edited and inedited, issued from mints in northern and central Iran between 358 and 368. The pertinent information derives from the miniature legends which are almost invisible to the naked eye and may require a magnifying glass even for identification. Placement in the outer margin has also perhaps hindered earlier notice. The outer marginal legends had by the middle of the fourth century become fairly standardized and historically insignificant, rarely attracting the attention of numismatists.

The content of the inscriptions in question is extraneous to the primary function of the coins as a means of exchange and to the authorization of their validity. But the microscopic scale and the obscure placement of the signatures are features which assume a new importance when viewed in the context of inscribed monuments and signed works of art.

The status of the artisan in Islamic society is a subject about which relatively little is yet known, particularly for this period. The several attempts to compile references to craftsmen in textual sources have met with a lack of explicit information regarding the arts and artisans, and it has been suggested that this omission reflects the low status of the artisan in contrast to others patronized by the court, such as poets, chroniclers and philosophers.<sup>9</sup> The crafts in general are among the less

<sup>9</sup> See for example D. N. Wilber, "Builders and Craftsmen of Islamic Iran: The Earlier Periods," *Art and Archaeology Research Papers* 10 (December 1976), p. 31.

prestigious professions, and the Islamic craftsman more often than not remains anonymous. Early sources emphasize, however, that the inclusion of one's name in an inscription was an honor granted by the sovereign or his representative.<sup>10</sup> Aside from such occasional textual references, what is known for the most part about the status of the artisan has been derived from inscriptions on signed works of art. Scholarly attention has thus been directed primarily to the compilation of craftsmen's signatures on architectural monuments, and on objects in various media.<sup>11</sup> Additional discussion is sometimes contained in more general studies and in monographs.<sup>12</sup> But the infrequent occurrence of such signatures in Islamic art renders them exceptional by their very presence.

The signature on the two coins of Iṣbahān 358 and as reconstructed from traces remaining beneath the erasure on the coin from al-Muhammadiyya 362 is related to signed works of art by its form and content as well as by its placement and scale. The noun '*amal*' is followed by the name of the artisan in construct (*idāfa*), with the signature consisting of the *ism* and a *nasab* and lacking an appellative or *nisba*. The occurrence of the noun '*amal*' is not uncommon on objects bearing signatures, but its use seems to imply a distinction in the status of the artisan named. It appears, for example, that the noun *ṣan'at* (or the verb with object *ṣan'ahu*) occurs on objects of higher quality. Individuals named in architectural inscriptions after the noun '*amal*' are less likely to be known in historical sources than those whose names

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Earlier studies are summarized in L. A. Mayer, *Islamic Architects and Their Works* (Geneva, 1956), pp. 15–16.

<sup>10</sup> Balādhurī, Muqaddasī and Ibn Bibī are cited by L. A. Mayer (above, n. 9), p. 21, n. 3.

<sup>11</sup> L. A. Mayer, "Islamic Glassmakers and Their Works," *The Israel Exploration Journal* 4 (1954), pp. 262–65; D. S. Rice, "Early Signed Islamic Glass," *JRAS* (April 1958), pp. 8–16; Mayer (above, n. 9); L. A. Mayer, *Islamic Astrolabists and Their Works* (Geneva, 1956); L. A. Mayer, *Islamic Woodcarvers and Their Works* (Geneva, 1958); Mayer, *Metalworkers* (above, n. 2); Wilber (above, n. 9), pp. 31–39.

<sup>12</sup> Such as M. Aga-Oglu, "Remarks on the Character of Islamic Art," *Art Bulletin* 36 (1954), pp. 175–202; R. Ettinghausen, "The Bobrinski 'Kettle', Patron and Style of an Islamic Bronze," *Gazette des Beaux-Arts* 24 (1943), pp. 193–208; M. Jenkins, "Muslim: An Early Fatimid Ceramist," *Bulletin of the Metropolitan Museum of Art*, N. S. 26 (1968), pp. 359–69.

are introduced otherwise which has led Mayer to suggest that the name following *'amal* refers to the stonemason and not the architect.<sup>13</sup> In building inscriptions a further distinction may be implied by the term *'alā yaday*, which according to van Berchem and Wiet designates the supervisor rather than the architect.<sup>14</sup> *'Amila* in either a nominal or verbal form appears to refer to the maker of an object, rather than an official responsible for its production. Miles's assumption that the signature on the coin of Iṣbahān 358 is that of the die engraver is thus justified.

The placement and scale of the inscription bearing the signature on signed monuments is often seen to express the humility of the craftsman. In architectural monuments, for example, the name of an artisan is less frequently encountered than that of the patron. When a signature does occur, it is usually placed inconspicuously in a corner, after the date or at the very end of the inscription. The patron's name with his titles is normally given a more prominent position.<sup>15</sup> Humility is also expressed by the use of self-deprecatory formulae which may accompany the artisan's name. In contrast expressions of pride are considerably fewer. More often associated with the respected professions such as astrolabist or calligrapher, they may imply knowledge as well as skill.<sup>16</sup> On rare occasions a craftsman employed at the court received praise and is mentioned in historical sources. Such is the case of a die engraver at the Mughal mint who is cited by name in the *A'īn-i Akbarī*: "He engraves the dies of the coins on steel, and such like metals. Coins are then stamped with these dies. At this day, Mawlā-nā [sic] 'Alī Ahmad of Delhi, who has not his equal in any country, cuts different kinds of letters in steel, in such a manner as to equal the copyslips of the most skilful caligraphers."<sup>17</sup>

<sup>13</sup> Mayer (above, n. 9), p. 24–25.

<sup>14</sup> M. van Berchem, *Matériaux pour un Corpus Inscriptionum Arabicarum, Egypt* 1 (Cairo, 1927), p. 84, and G. Wiet, *Materiaux pour un Corpus Inscriptionum Arabicarum, Egypt* 2 (Cairo, 1929), p. 46n., both in *Memoires publiés par les membres de l'Institut Français d'Archéologie Orientale du Caire*; Mayer (above, n. 9), pp. 23–24.

<sup>15</sup> Mayer (above, n. 9), p. 21.

<sup>16</sup> Mayer, *Astrolabists* (above, n. 11), pp. 14–15.

<sup>17</sup> Abū'l-Fazl 'Allāmī, *A'īn-i Akbarī*, trans. H. Blochmann (New Delhi, 1965), sec. 7, p. 22. I am indebted to Michael Bates for this reference.

The linear Kūfic script of the regular legends on the coins signed by al-Hasan b. Muḥammad is not particularly noteworthy, but the flourishes and embellishments added sometimes to certain letters (*rā'*, *yā'*, *'ain*, *nūn*, *dāl*, *hā'*, *wāw*, final *hā'*) relate them to inscribed monuments in Iran of Buyid date.<sup>18</sup> The style of the die engraver's signature parallels that of contemporary inscriptions even more closely. The style is angular, not rounded; it is characterized by the obliquely cut vertical strokes of letters and the terminal serifs. These two features distinguish calligraphy in ink resulting from the use of a nibbed reed pen (*qalam*) and suggest that the monumental epigraphy of the period relies upon a written style.<sup>19</sup> The occurrence of these two stylistic features on inscribed or carved monuments in stone, metal, wood and ceramics suggests that they are calligraphic mannerisms applied to other materials.<sup>20</sup>

The work of al-Hasan b. Muḥammad is so far confined to the production of dies for two mints in the province of Jibāl, Iran. It is conceivable

<sup>18</sup> In particular certain epigraphic details of inscriptions on the Pul-i Kalhur, the Jurjir portal, and in the graffiti at Persepolis: E. Herzfeld, "Bericht über archäologische Beobachtungen in sudlichen Kurdistan und Luristan," *Archäologische Mitteilungen aus Iran* 1 (1929–30), p. 74; *Survey of Persian Art*, ed. A. U. Pope and P. Ackerman (London, 1939), pp. 1232, 1788, 1805; A. Godard, "The Jurjir Mosque in Isfahan," *Survey of Persian Art*, vol. 14, (London/Tokyo, 1967), pp. 3100–4; W. Kleiss, "Bericht über Erkundungsfahrten in Iran im Jahre 1971," *AMI* 5 (1972), pp. 208–9, fig. 85, pls. 59–60; E. Galdieri, *Isfahan: Masjid-i Ġum'a II. The Al-i Buyid Period* (Rome, 1973); G. C. Miles, "A Portrait of the Buyid Prince Rukn al-Dawla," *ANSMN* 11 (1964), pl. 47, 4; E. Combe, J. Sauvaget, and G. Wiet, *Répertoire Chronologique d'Épigraphie Arabe*, Publications de l'Institut Français d'Archéologie Orientale (Cairo, 1931–36), vol. 5, no. 1901 (Pul-i Kalhur); vol. 6, no. 1475–76; vol. 6, no. 2087 (Persepolis).

<sup>19</sup> The influence of the *qalam* in Buyid epigraphy has been noted previously by L. A. Mayer, "A Note on Some Epigraphical Problems," in *Survey of Persian Art* (above, n. 18), vol. 2, pp. 1805–7, but he disregards the occurrence of these features in contemporary coinage.

<sup>20</sup> For a pair of wooden door panels, *Survey of Persian Art* (above, n. 18), vol. 6, pl. 1460, and G. Wiet, *L'exposition persane de 1931* (Cairo, 1933), pp. 10–12, no. 6. For objects in other materials, see E. Kühnel, "Die Kunst Persiens unter den Buyiden," *Zeitschrift der Deutschen morgenländischen Gesellschaft* (1956), pp. 78–92, and O. Grabar, "The Visual Arts," in *The Cambridge History of Iran*, 4, ed. R. N. Frye (Cambridge, 1975), pp. 329–63.

that he was employed at other mints as well. The similarity in epigraphic details, the spacing of the letters (including an extended ligature between the *qāf* and *bā'* in the outer obverse margin), and the arrangement of legends on several coins issued by the Bāwandids and the Ziyārids, for example, may imply a closer relationship to coins struck from dies engraved by al-Hasan b. Muḥammad than is suggested merely by the dates of their issue or their adherence to a contemporary epigraphic style.<sup>21</sup> But in view of the absence of other signed specimens, the attribution of additional coins to this die engraver must await a closer identification of his hand, and the epigraphic characteristics peculiar to his work. Further examination of coins struck at mints in northern and central Iran in the second half of the fourth century eventually may permit an extension of the temporal and geographic limits of his employment as a die engraver.

<sup>21</sup> G. C. Miles, "The Coinage of the Bāwandids of Ṭabaristān," in *Iran and Islam*, ed. C. E. Bosworth (Edinburgh, 1971), pp. 44–360, espec. pls. 1, 4 (7a) Firīm 363? and 1, 5 (10c) Firīm 367; G. C. Miles, "Coinage of the Ziyārid Dynasty of Ṭabaristān and Gurgān," *ANSMN* 18 (1972), pp. 119–37, espec. pls. 24, 5 Astarābād 361, 24, 6 Sāriyah 361, and 25, 8 Jurjān 362. S. M. Stern, "The Coins of Āmul," *NC* 1967, p. 249, speculates that Bisutūn sought to increase his prestige by modeling his titulary on that of the Büyid, giving the name with *laqab*, *kunya* and eponym after he received his *laqab* *Zahīr al-Dawla* in 360.

## THE CONFEDERATE ISSUES OF 17 FEBRUARY 1864

(PLATES 50-51)

RICHARD G. DORY

When the Southern States seceded from the Union in the winter and spring of 1861, they were immediately beset by onerous problems, difficulties inherent in an agricultural and pastoral section attempting to wage war in an industrial age. One of the prime difficulties lay in financing a long war with slender capital resources. It was not a question of wealth: the South had enough potential wealth to finance a war almost indefinitely. Rather, the problem lay in the location and distribution of those resources. Here, the traditional values of the South militated against the financing of modern warfare, for Southern resources were inextricably bound to the soil. As things turned out, they could not be converted to specie.

Something similar had been the case during the American Revolution. At that time, too, a people in revolt had been blessed with abundant natural resources, but with little specie. To finance that earlier war, the colonies had turned to paper money—certificates of a stated value with an explicit or implicit promise of eventual redeemability in specie. The system had not worked well, but the infant United States had had no other choice. And when a part of that nation decided to strike out on its own in 1861, it had no other options open to it either, and it too decided to finance its struggle with paper currency.

All in all, there were seven separate issues of Confederate currency, the first under the Act of 9 March 1861, the last under the Act of 17 February 1864.<sup>1</sup> The total amount of paper issued is unclear. Writing in 1915, Bradbeer put the figure at close to 2 billion dollars.<sup>2</sup> This

<sup>1</sup> A. Slabaugh, *Confederate States of America Paper Money*, 6th ed. (Chicago, 1977), pp. 5-53. Cited hereafter as Slabaugh.

<sup>2</sup> W. W. Bradbeer, *Confederate and Southern State Currency* (Mt. Vernon, N. Y., 1915), p. 28. Cited hereafter as Bradbeer.

figure is subject to dispute: a later source estimated that around 2 billion dollars was issued under the Act of 17 February 1864 alone.<sup>3</sup> As we shall see, this amount is several times above the probable output under the Act of 1864, but it is indicative of a basic problem in dealing with this and other aspects of Confederate official policy: in many cases, there is very little hard information available, and students of the period are forced to surmise.

This is particularly true of the currency issue under review here, that of 17 February 1864. Information on this issue is fragmentary, and much of what must have originally been written down was lost during and after the collapse of the Confederacy in the spring of 1865. This is especially true for the later printings authorized under the Act of 1864. Jefferson Davis believed that few if any records of currency production were kept after July 1864.<sup>4</sup> While my research has convinced me that this statement is not entirely correct, the writings of Raphael P. Thian, one of the earliest and most conscientious students on the subject, give eloquent testimony to the fact that, for one reason or another, later Confederate production cannot be fixed with certainty. Thian made an estimate of note output based on surviving records, and in their absence, on surviving specimens;<sup>5</sup> these are the methods employed in the preparation of this article.

The fragmentary nature of the information available on Confederate currency of the seventh issue has had unfortunate results. The most widely spread opinion today is that the Act of 1864 authorized an issue of 200 million dollars in new currency, but that the amount actually issued was "probably 10 times this figure and the amount printed even greater."<sup>6</sup> This opinion has been with us for some time, and it is patently incorrect in two respects: first, the production figure it gives is several times too high; second, no initial authorization of 200 million dollars was ever passed by the Confederate Congress. An examination of

<sup>3</sup> G. C. Criswell, Jr., and C. L. Criswell, *Criswell's Currency Series*, vol. 1: *Confederate and Southern State Currency* (Pass-A-Grille Beach, Florida, 1957), p. 93.

<sup>4</sup> Bradbeer, p. 28.

<sup>5</sup> R. P. Thian, *Register of the Confederate Debt* (Washington, 1880; repr. Boston, 1972), p. 178. Cited hereafter as Thian.

<sup>6</sup> G. C. Criswell, Jr., *Criswell's Currency Series*, vol. 1: *Confederate and Southern State Currency*, 2nd rev. ed. (Citra, Florida, 1976), p. 75.

surviving ANS specimens of the 1864 issue should shed light on the first statement; an examination of surviving Confederate archives should satisfy us as to the truth of the second. It may also explain how Criswell's misinterpretation, as well as those of Chase<sup>7</sup> and Bradbeer himself<sup>8</sup> might have taken form.

The key to any accurate reconstruction of the Confederate currency issue of 1864 lies in a knowledge of Confederate currency-printing practices. The large majority of Confederate issues, including all of those under the Act of 17 February, were lithographed. A master copper plate with the desired design was prepared. Subsequently this design seems to have been transferred to a lithographic stone, after which printing could begin. This at least was the method most probably in use in 1863;<sup>9</sup> it seems unlikely to have undergone serious modification in the years immediately following. The actual printing was done in Columbia, South Carolina, the center of Confederate currency production after mid-1862. (The printing establishment had been removed from Richmond at that time due to the possibility of a Union capture of that city.)

Once printed, the notes were conveyed to Richmond, still in the form of sheets. There they were cut, signed, and numbered,<sup>10</sup> and then became circulating currency.

Two observations must be made at this point, for they have direct bearing on arriving at an accurate figure for Confederate note production. First, unlike modern currency, most Confederate issues were signed and numbered by hand. Several hundred workers were employed for this purpose.<sup>11</sup> We may surmise that the idea behind this practice was to convince the public (which would probably be apprehensive about paper money in the best of circumstances) that someone stood behind each note circulated. This was how things were at the end of

<sup>7</sup> P. H. Chase, *Confederate Treasury Notes* (Philadelphia, 1947), p. 79.

<sup>8</sup> Bradbeer, p. 26.

<sup>9</sup> S. E. Roakes, Jr., "The Pledge of a Nation; Survey of Confederate Note Printers," *Paper Money* 13: 3 (May 1974), 102.

<sup>10</sup> R. C. Todd, *Confederate Finance* (Athens, 1954), pp. 86-87. Cited hereafter as Todd.

<sup>11</sup> W. Lee, *The Currency of the Confederate States of America* (Washington, D.C., 1875), p. 16. Cited hereafter as Lee.

1862. By 1864, there had been slight modifications to this basic practice: the 50 cent note bore printed signatures, and it and the 500, 100, and 50 dollar bills bore stamped serial numbers, not hand-written ones. We may speculate that the decreasing value of the currency printed, along with an increase in its production, inspired these changes.

Notes were printed and numbered as part of a series. In theory, 100,000 notes comprised a single series,<sup>12</sup> and, once that total had been reached, new plates bearing the number of the next series were put into service. This was the theory; by 1864, it was beginning to fall into disuse, as the ANS collection, which bears several specimens numbered well over 100,000 can attest.

The signing and numbering of notes by hand was in part a security measure, intended to render counterfeiting more difficult. It cannot have been very effective, due to the hundreds of people signing the notes. In any case, one hastily scrawled signature looks much like another. This hand-signing and numbering is of use in reconstructing note production, however, as we shall see.

The plate-structure used by Confederate printers is also important here. Lithographic stones were expensive, and they had to be imported from Europe,<sup>13</sup> the Confederacy lacking the excessively fine-grained limestone necessary for the purpose. As a result, Confederate lithographers produced several bills from the same plate, as a few surviving uncut sheets testify. By 1864, the rule was that the 50 cent note was printed in a sheet of nine examples, lettered A to I, the 1, 2, 5, and 10 dollar notes were printed eight to a sheet, lettered A through H, the 50 dollar note in a sheet of four, lettered WA to ZA, and the 20, 100, and 500 dollar notes also in sheets of four, with letters ranging from A to D.<sup>14</sup>

The result of this combination of Confederate printing practices is that, *providing enough specimens have survived*, it is easily possible to gain a more-or-less accurate idea of the production of any given denomination in the 1864 series by a simple process of multiplication. Adding the denominations will give us a good idea of total Confederate

<sup>12</sup> Lee, p. 16.

<sup>13</sup> Lee, p. 18.

<sup>14</sup> Slabaugh, p. 61.

output. When we do so, basing our figures on specimens present in the ANS collection, we get a figure of \$430,665,891 for those notes dated 17 February 1864. The denominations (and their amounts) are as follows:

TABLE 1

<i>Denomination</i>	<i>Amount</i>
\$500	\$76,604,000
100	86,000,400
50	77,360,000
10	89,152,160
5	25,714,520
2	1,811,648
.50	531,315
TOTAL (based on ANS notes)	\$430,665,891

These totals can be broken down further. Bear in mind that, in order to achieve an estimate for any denomination, we must multiply the denomination times the number of bills on plates used to print that denomination times the highest serial number. This will give us a maximum figure for a series. Add the series together, and we have the total 1864-dated output for the denomination. As an example, let us consider the five dollar bill.

TABLE 2

Estimate of Output of 1864 Five Dollar Notes,  
Based on ANS Specimens

<i>Series</i>	<i>Notes on Plate</i>	<i>ANS Specimens</i>	<i>Highest Serial No.</i>	<i>Total</i>
-	8	15	90,452	3,618,080
1	8	19	91,230	3,649,200
2	8	23	90,689	3,627,560
3	8	23	81,216	3,248,640
4	8	21	93,813	3,752,520
5	8	20	92,363	3,694,520
6	8	17	96,480	3,859,200
7	8	9	6,620	264,800
				\$25,714,520

It will be noted that the last series (the seventh) is represented by relatively few specimens, whose serial numbers are extremely low in contrast with earlier series. This phenomenon is duplicated in other denominations—at least in the case of our specimens. One might argue that this is logical: the later printings were made shortly before the fall of Columbia to federal troops. This took place in mid-February 1865: Sherman attacked the city on his way to the sea, and the Confederate Treasury-Note Bureau was forced to evacuate on 20 February. Members of the Bureau, along with what printing equipment and clerks they were able to commandeer, wandered from place to place, eventually coming to rest in Greenville, South Carolina. But before they could resume operations, the Confederacy had collapsed. As Todd graphically puts it, “from that day [20 February, the date of the evacuation of Columbia] to the final surrender of the Confederate military by E. Kirby Smith [on 2 June] the Bureau was unable to issue a single note.”<sup>15</sup> Slabaugh states that some of the equipment was transferred to Anderson, South Carolina, and to Richmond, and that a few additional notes were printed with this machinery *after* the evacuation of Columbia.<sup>16</sup> This seems unlikely and, even if it were true, it would not have materially affected the total output of Confederate currency.

My figures for 1864-dated currency are based on an examination of about 750 specimens in the ANS collection. Most of the series are well-represented, the earlier ones extremely so, and all the denominations are present. In my opinion, our holdings are sufficiently complete to form a firm basis for concluding that total 1864 issues were somewhat under 500 million dollars, not 2 billion dollars, as Criswell and several others have stated.

My conclusions in this respect are borne out by the figures of Raphael P. Thian, whose *Register of the Confederate Debt* was mentioned above. Thian was a collector and dealer in Confederate currency, and he thus had access to an immense quantity of Confederate paper. As Chief Clerk of the Adjutant General's Office of the United States, Thian also had access to surviving Confederate treasury archives, which were then on file with the Department of War. In writing his detailed study of

<sup>15</sup> Todd, pp. 89–90.

<sup>16</sup> Slabaugh, p. 80.

Confederate currency issues, Thian relied on official records when he could obtain them and, when he could not, when the records did not exist, on his experience as a collector and dealer. His book appeared in 1880, the first volume of a projected ten-volume study of the entire subject of the Confederate debt. The other nine volumes never saw publication, and only five original copies of this book exist.<sup>17</sup>

The *Register of the Confederate Debt* is a painstakingly precise examination of note production, and its tables on who signed what notes will be of use to us later. One may surmise that Thian included such information with an eye toward detecting counterfeits, as much of a problem for dealers in the nineteenth century as it is for their counterparts in the twentieth. In any case, Thian's figure for the total output of 1864-dated notes is reasonably close to mine, based as it is on a smaller number of specimens. Thian gives a figure of \$456,142,990.50 for this issue, a figure about seven percent higher than mine. He observed some bills in the later series (for which records had been destroyed, if they ever existed) whose numbers were higher than those seen on ANS representatives. On the other hand, Thian's figure of \$75,214,000 for 500-dollar notes is lower than the ANS figure for notes of the same denomination by almost 1.5 million, due solely to the fact that the highest serial number he observed was 37,607, while an ANS note was found which bore the number 38,302.<sup>18</sup>

In short, the evidence of ANS specimens, buttressed by the findings of Thian, indicates an issue of between 400 and 500 million dollars for notes dated 17 February 1864. It does not indicate a total anywhere near the 2 billion dollar mark, and no amount of mental juxtaposition can make it do so.

If that is the case, where did Criswell obtain the 2 billion dollar figure which he included in the 1957 and later editions of his book? I have been unable to reach any clear conclusions here. Earlier writers did not cite this figure. Writing in 1875, Lee stated that \$345,378,650 in 1864-series notes had been issued up to 31 October 1864.<sup>19</sup> Allowing for additional note production up to mid-February 1865, it would be

<sup>17</sup> Thian, pp. iii-ix.

<sup>18</sup> Thian, p. 178.

<sup>19</sup> Lee, p. 18.

quite feasible to arrive at a figure of between 400 and 500 million dollars, the output suggested by Thian and by my reading of ANS material. Bradbeer did not give an estimate of 1864 production, although he gave a total figure of under 2 billion dollars for *all* Confederate issues, as noted above. Chase merely mentioned that 1864-dated paper was "issued in enormous quantities,"<sup>20</sup> while Claud E. Fuller, whose *Confederate Currency and Stamps* appeared two years after Chase's study, fundamentally relied on Bradbeer's figures. Fuller's language is interesting, however, for, in reviewing all Confederate production, he notes that "a conservative estimate . . . places it at two billion dollars"<sup>21</sup> which is strongly reminiscent of Criswell's statement regarding the 1864 issue alone. Later writers fail to resolve the problem. Reinfeld merely repeated Criswell's original estimate,<sup>22</sup> and Slabaugh introduced a completely new figure, one still too high ("probably about a billion dollars").<sup>23</sup>

In brief, we are still left with the same problem, the origin of the 2 billion-dollar estimate. While it is possible that Bradbeer (or Fuller, who echoed Bradbeer) was misinterpreted, this does not seem especially likely. I cannot offer any explanations as to the origin of the specific figure of 2 billion dollars at this time.

I can, however, advance a partial explanation for a figure—*any* figure—in excess of the 450 million dollars or so which seems to have been the actual size of the issue. The key to this explanation lies in the fact that several of the 1864 denominations are known in more than one variety with identical series numbers. The 20 dollar bill, for example, contains notes of three separate varieties, running through 12 series (1 undesignated and 11 designated). The difference between the three varieties lies in the number of flourishes over the words CONFEDERATE STATES OF AMERICA. Type 1 has two flourishes over the ICA of AMERICA, Type 2 has one flourish over ICA and three above the CON of CONFEDERATE, and Type 3 has one flourish over ICA, none over CON. Major varieties of this sort are definitely known for

<sup>20</sup> Chase (above, n. 7), p. 79.

<sup>21</sup> C. E. Fuller, *Confederate Currency and Stamps, 1861-1865* (Nashville, 1949), p. 31. Cited hereafter as Fuller.

<sup>22</sup> F. Reinfeld, *The Story of Civil War Money* (New York, 1959), p. 62.

<sup>23</sup> Slabaugh, p. 47.

the 50s, 20s, and 1s, and they have been postulated for the 100s and 10s as well,<sup>24</sup> on somewhat less substantial evidence. Some of these varieties were known to Lee in 1875;<sup>25</sup> they are not imaginary differences.

But what is their meaning in terms of Confederate note production? It is obvious that, if these differences were meant to represent a separate series *within* a series, total note production would be a great deal higher than 400 or 500 million dollars. That is, if we have not one but three varieties of Series 1 20-dollar bills, and we assume that the Confederacy printed around 100 thousand specimens of each before going on to Series 2, our output is going to be three times higher than before. Taking all varieties on all denominations for all series into consideration, we would still not reach the 2 billion mark, but we would have a figure much higher than the 400 or 500 million dollars with which we began.

Fortunately, at this point Thian's thoughtful juxtaposition of serial numbers and signatures comes into play, by which we can determine that, while differences exist within series, they do not represent separate issues of notes—in short, that the figure we began with is likely to be the correct one after all.

Confederate notes were signed by two clerks and numbered. The same pair of clerks signed anywhere from several dozen to several hundred notes (in sheets) at any one time. Then one or both of them were replaced by other clerks trained for the same purpose, and the work went on. Thian, as mentioned, duly included as many records of clerks-in-tandem, along with the money they signed, as he could in his *Registry of the Confederate Debt*.

My investigations thus led me to a sort of die linkage, a common research tactic in coinage, but one not usually employed for paper money. The procedure was time-consuming, but simple. Using Thian as a basis, I examined all of our holdings in 1864 currency, in those denominations where recognized varieties existed. If I could find a Series 1 Type 1 10-dollar bill with a signature combination identical to that on a Series 2 Type 1 note, and if in addition the serial numbers on each note were within the range that Thian said they had to be, then there was only one series, not two, regardless of varieties.

<sup>24</sup> Bradbeer, pp. 100–6.

<sup>25</sup> Lee, pp. 19–20.

I found four such linkages, three of them on notes of the 50 dollar denomination (one on bills with no series designation, the other two on those of the first series). The fourth linkage was found between two 2 dollar notes. The evidence is summarized in Table 3. In addition, I encountered an indirect link between two 10-dollar bills of the first series. The variety here stems from the fact that Type 1 bears the series number in Roman type, while Type 2 has it in italics. Our Roman type 71786, signed by Harrison and Rhett, was linked to an Italic type 71646, signed by Harrison and Via. Thian's figures bear out my conclusion that a link is present here. These clerks were responsible for signing bills with those serial numbers.<sup>26</sup>

TABLE 3

**Examples of Signature and Serial Number Linkages on Confederate Notes, 1864, Based on ANS Specimens\***

<i>Denom.</i>	<i>Series</i>	<i>Criswell No.<sup>b</sup></i>	<i>Ser. No.</i>	<i>Signature Comb.<sup>c</sup></i>
\$50	1	496 (No flourish)	23000	M. E. Cullen – J. Gott
\$50	1	501 (Flourish)	23084	" "
\$50	–	495 (No Flourish)	46167	E. C. Winston – L. C. Minor
\$50	–	500 (Flourish)	46261	" "
\$50	1	496 (No flourish)	73652	B. J. Clarke – M. Cooper
\$50	1	501 (Flourish)	73758	" "
\$2	–	567A (Period before each serial letter)	52815	B. J. Clarke – M. Cooper
\$2	–	568A (Period before last serial letter)	52883	" "

\* All examples are illustrated on Plates 50–51.

<sup>b</sup> G. C. Criswell, *Confederate and Southern States Currency* (1976 ed.), pp. 77, 83.

<sup>c</sup> Thian, pp. 122, 124.

<sup>26</sup> Thian, p. 151.

It will be argued that four such combinations (and a probable fifth) out of over 700 notes is not conclusive evidence in favor of my theory. But any other solution seems more unlikely. Are we to suppose that the same two individuals, out of several hundred clerks, signed a Type 1 50 dollar note (73758) and then, almost 100 thousand notes later, were again present for the signing of Type 2 (73652)? The possibility is there, of course, but it seems a highly unlikely occurrence. I cannot explain the presence of these varieties within single series. Minor touches may have been added or removed at the whim of the lithographer. And carrying things a step farther, there are minor differences in the position of plate letters, central vignettes, and so forth, which no cataloguer has bothered to explore. Such was the nature of lithography in the nineteenth century. It was not an exact science, and stones wore out and had to be replaced. No one has ever estimated the number of lithographic stones required to print Confederate money, but it would have to be several hundred at the very least, judging from minute variations present on the bills in the ANS collection.

In sum, while I cannot account for the major varieties within series in the 1864 issues, I am not surprised by them, and I am reasonably confident that they do not—and should not—alter my findings as to total Confederate printings under the Act of 17 February 1864.

If the origin of the 2 billion dollar estimate of production cannot be determined, the genesis of the supposed authorization figure of 200 million dollars can be established accurately. Our examination of the 2 billion dollar figure has taken us to the notes themselves. An explanation of the 200 million dollar authorization will take us to the archives of the Confederacy.

The Act of 17 February 1864, which authorized the seventh and last issue of Confederate currency, is reproduced in its entirety in Fuller (pp. 114–15). It is important to note that the purpose of the Act was to reduce the amount of money in circulation. Bradbeer estimated that, by 1 January 1864, nearly 1 billion dollars in Confederate money was in circulation.<sup>27</sup> The effects of this much unsupported currency on a money-short, agrarian economy may be imagined. Added to the

<sup>27</sup> Bradbeer, p. 23.

serious inflation was the fact that the Northern blockade, which was becoming increasingly effective by late 1863, was creating a greater and greater scarcity in many basic commodities, and this, too, forced prices upward.

All of this was an object of deep concern among members of the Confederate cabinet, none more so than Secretary of the Treasury, Christopher Gustavus Memminger,<sup>28</sup> whose own estimate of Confederate currency in circulation on the eve of the seventh issue was in the neighborhood of 800 million dollars,<sup>29</sup> a figure lower than that cited by Bradbeer, but certainly large enough to alarm the Secretary.

Acting on his fears, Memminger, in his report to the Confederate Congress on 7 December 1863, recommended a new issue of Confederate money, retiring most of that then in circulation.<sup>30</sup> The eventual result was the Act of 17 February 1864, or, to give it its full title, "An Act to Reduce the Currency and to Authorize a New Issue of Notes and Bonds."<sup>31</sup>

The Act had undergone radical changes since it was first suggested by Memminger, as we shall see later. Its basic purpose, however, remained the same. It was intended to reduce the amount of unsupported paper then in circulation. In order to achieve this objective, it placed heavy taxes on older outstanding notes and, though the exceptions were numerous, in general it provided for the convertibility of old notes for new on a three-for-two basis. Nowhere did it authorize an issue of 200 million dollars in new notes. Indeed, Section 5 stated that, after 1 April 1864, the Secretary of the Treasury might "issue new treasury notes, in such form as he may prescribe, payable two years after the ratification of a treaty of peace with the United States"—with the stipulation of a three-for-two exchange as mentioned above.<sup>32</sup>

A brief glance at the financial state of the Confederacy underlines the logic of such an approach, as opposed to a set authorization of 200

<sup>28</sup> Todd, pp. 111–12.

<sup>29</sup> Memminger to Thomas S. Bocock, 2 May 1864, in H. D. Capers, *The Life and Times of C. G. Memminger* (Richmond, 1893), p. 477. Cited hereafter as Capers.

<sup>30</sup> Memminger to Bocock, 7 December 1863, in Capers, pp. 457–64.

<sup>31</sup> Fuller, p. 114.

<sup>32</sup> *Journal of the Congress of the Confederate States of America, 1861–1865*, 6 (Washington D.C., 1905), pp. 579–805. Cited hereafter as *Journal of The Congress*.

million dollars for the new issue. While the Confederacy hoped that much of the outstanding currency would be exchanged for bonds and call certificates, it was more than likely that the great majority of currency would, by preference, be turned in for new currency, particularly since bonds could not be spent, and might never be redeemed anyway, considering the darkening fortunes of the Confederacy. Paper money, at least, had some present value. Thus, rather more than 200 million dollars' worth of the new currency would be needed, for it would be necessary to redeem most of a total outstanding amount of up to 1 billion dollars. Two hundred million would not be nearly enough to do so. A ceiling at that figure would have been both unrealistic and inadequate for the purposes the Confederate Congress had in mind, and the Congress was aware of that fact.

We have some oblique evidence which bears out the fact that the 200 million dollar figure would have failed, had it been enacted. Davis's message to Congress on 7 November 1864 observed that, of the total outstanding public debt as of 1 October of that year, "\$283,880,150 were treasury notes of the new issue that is, of 17 February 1864."<sup>33</sup> If Jefferson Davis, one of the best-known Southern fiscal conservatives, can make a statement like that, we must conclude that no figure of 200 million dollars formed an implicit or explicit part of the Act of 17 February 1864.

All the same, the figure came from somewhere. It did not originate with Criswell. Bradbeer mentioned it in 1915,<sup>34</sup> as did Capers in 1893.<sup>35</sup> So the figure goes back almost 90 years. As a matter of fact, it goes back farther than that: it predates the ratification of the Act of 17 February itself. It was originally meant to form an integral part of that Act, but it was dropped from the bill before it became a law. This proposal, made during late 1863 and early 1864, abandoned at the last moment, forms the basis for a century of misunderstanding as to the true nature and intentions of the last Confederate currency legislation.

<sup>33</sup> Quoted in Fuller, p. 36.

<sup>34</sup> Bradbeer, p. 26.

<sup>35</sup> Capers, p. 344.

The genesis of the 200 million dollar authorization proposal was contained in Treasury Secretary Memminger's report on Confederate fiscal conditions as of 30 September 1863, delivered to Thomas S. Bocock, Speaker of the Confederate House of Representatives, on 7 December of the same year. After outlining the sorry state of Confederate finances, in which vast amounts of unsupported paper currency played a prominent role, Memminger made several suggestions as to how to reduce the amount of currency then in circulation. His seventh recommendation is of importance to us here, for Memminger proposed that:

Within six months a new and improved issue shall be made of two hundred millions of treasury notes in substitution for that amount of old issues, and all the old issues shall be cancelled, and the faith of the government is pledged not to increase said issues.

Memminger went on to propose that remaining notes (since there was much more than 200 million dollars' worth of paper in circulation at the time) would be traded in for bonds. If not turned in, their currency function would cease, although they would remain certificates of debt.<sup>36</sup>

Congress acted on Memminger's recommendations. H.R. 92, entitled "A Bill to Tax, Fund, and Limit the Currency," was read for the first and second times in the House of Representatives on 31 December 1863, and passed by that body on 16 January 1864. Section 5 of the bill carefully adhered to Memminger's ideas and reflected his alarm over the excessive amount of currency in circulation. It stated that:

The Secretary of the Treasury is hereby authorized to make a new issue of treasury notes, to an amount not exceeding two hundred millions of dollars, payable two years after a definitive treaty of peace with the United States, and in such form, of such denominations, and with such authentication as the Secretary of the Treasury shall prescribe. When these notes shall be, in any manner, received into the treasury, they may be reissued, or be substituted by others of like account,

<sup>36</sup> Capers, pp. 457-64.

so as not, at any time, to increase the whole amount in circulation, beyond the said sum of two hundred millions of dollars.<sup>37</sup>

At that point, the bill passed to the Confederate Senate, where its troubles began. Here, too, opposition to the 200 million dollar clause came to the surface. Memminger would eventually get his law, but when he got it, it would appear in a new form altogether. And the authorization of 200 million dollars for the new issue would be absent.

H.R. 92 was read in the Senate for the first and second times on 18 January 1864.<sup>38</sup> The Senate immediately proposed the dropping of all sections after the enabling clause, including the fifth. In its place, the Senate (Section 2) proposed a new issue of "exchequer notes," placed in circulation by the Treasury Secretary, payable two years after a treaty of peace between the Confederacy and the United States. The new notes could be converted into call certificates paying three percent interest annually.<sup>39</sup> The Senate's version of the new currency bill was passed by that body on 4 February, and then sent back to the House for action.<sup>40</sup>

Clearly, House and Senate were in major disagreement as to the size, type, and provisions of the proposed issue.

The House met on Tuesday, 9 February, to attempt to resolve the disagreements between the two bills.<sup>41</sup> Congressman F. S. Lyon of Alabama proposed an amendment of his own, which completely dropped the Senate idea of a quarter-billion dollar issue of exchequer notes; significantly, his amendment added that new treasury notes should be issued "as the wants of the Treasury may require."<sup>42</sup> Note that there is no mention of any set sum here, either of 200 or of 250 million dollars. The idea of a set figure to be authorized by the new law begins to disappear, and we are beginning as well to see a terminology very similar to that in the final law adopted on 17 February.

<sup>37</sup> Confederate States of America, *A Bill to Tax, Fund, and Limit the Currency* (House Bill No. 92-Secret. Richmond, 1864), pp. 1-3. Cited hereafter as CSA.

<sup>38</sup> CSA, p. 1.

<sup>39</sup> CSA, pp. 7-8.

<sup>40</sup> CSA, p. 1.

<sup>41</sup> *Journal of the Congress*, 6, p. 771.

<sup>42</sup> *Journal of the Congress*, 6, p. 781.

In order to resolve the two versions of the proposed law, a conference committee of House and Senate members was ordered set up on 12 February.<sup>43</sup> The House chose its members the same day;<sup>44</sup> the Senate agreed to the conference on the day following, choosing its members at that time.<sup>45</sup>

Three days of wrangling followed. On 16 February, the bill was reported out of joint committee into a secret session of the House of Representatives, with recommendations to the effect that the Senate should withdraw its amendments and the original House bill be amended by striking out everything after the enabling clause and inserting "the bill herewith reported"<sup>46</sup>—which turns out to be the bill which finally became law on 17 February. That day saw the passage of the bill and President Davis' signing it into law.<sup>47</sup> It is unlikely that Davis was particularly pleased with the new law. It is a definite fact that Secretary Memminger was distinctly displeased. He resigned his office in mid-June 1864, and, in his explanatory letter to Davis on 14 June, Memminger stated that he had had different plans for limiting currency than those adopted by Congress, whose substitute currency reform "had been uncertain until the end of the session"—that is, until 17 February, the last day of that particular Congressional session.<sup>48</sup> Memminger apparently had continued to hope that new currency issues would be limited, even though the letter of the law was vague on that point. When they were not, he decided to resign.

So the idea of a strictly limited, 200 million dollar authorization went the way of the Confederacy itself. It was picked up by later historians, however, and it achieved a measure of legitimacy in the process. Capers mentioned it in 1893, as we have seen. His inclusion of this figure is surprising, since he also cited Memminger's letter of resignation, which was a flat admission that such a figure for the 1864 issue had *not* been adopted. I surmise that Bradbeer obtained the figure from Capers,

<sup>43</sup> *Journal of the Congress*, 6, p. 797.

<sup>44</sup> *Journal of the Congress*, 6, p. 805.

<sup>45</sup> *Journal of the Congress*, 6, p. 813.

<sup>46</sup> *Journal of the Congress*, 6, pp. 842–43.

<sup>47</sup> J. C. Schwab, *The Confederate States of America, 1861–1865. A Financial and Industrial History of the South during the Civil War* (New York, 1901), p. 64.

<sup>48</sup> Capers, pp. 365–66.

or possibly from Ernest Ashton Smith. Writing in 1901, Smith reproduced the 200 million dollar figure of authorization, but then added that "the note issues were in theory" limited to that amount, "not notwithstanding the fact that the statute allowed three dollars of the old tenor to be exchanged for two of the new, a proviso estimated to require \$214,000,000."<sup>49</sup> In other words, Smith was attempting to reconcile two different entities, (the originally proposed, later abandoned figure of 200 million, versus the three-for-two exchange stipulations of the actual law), and he was not succeeding.

In any event, once Bradbeer had accepted and published the figure in 1915, it was probably inevitable that it would be regarded as truth for many years, because Bradbeer's catalogue was the standard work on Confederate money for 40 years. We may postulate the fact that Criswell obtained his data from this source, for his catalogue is in many respects very closely based on that of Bradbeer.

<sup>49</sup> E. A. Smith, *The History of the Confederate Treasury* (Harrisburg, Pennsylvania 1901), p. 88.



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## GUIDE FOR CONTRIBUTORS AND LIST OF ABBREVIATIONS

### MANUSCRIPT PREPARATION

All typescripts are to be double spaced with ample margins. Footnotes are to be sequentially numbered, typed double spaced, on separate sheets following the text. All citations should be verified by the author before the article is submitted and the author should retain an up-to-date copy of the submitted manuscript. The author supplies the required photographs, original drawings, graphs, monograms, etc. (for ANS collections a photography order may be submitted with the manuscript). In most instances, the author will be requested to paste up the accompanying photographic plates, if any.

An abstract of the article accepted for publication must also be submitted by the author for inclusion in *Numismatic Literature*.

Authors are accorded the opportunity to read galley proof. For this reason authors are requested to inform the Editor of any plans for extended travel during the relevant period.

This guide deals primarily with the citation of references. The guiding principle is clarity: citations should enable the interested reader to locate the source easily. For other matters of style, the editors rely on the University of Chicago, *A Manual of Style*, 12th edition.

### FOOTNOTE CITATION

Footnotes should be kept to the necessary minimum. Each new source not included in the List of Abbreviations below should be cited in full; subsequent references to the same work are cited in the *short form*. To be complete, citations must include the following information:

*For books:*

Author's initial(s), last name  
 Complete title  
 Vol. no., if any  
 Editor, compiler or translator, if any  
 Name of series, vol. no., series no.,  
 if any  
 Edition, if other than the first  
 City, year of publication  
 Page no(s)., etc.

*For journal articles:*

Author's initial(s), last name  
 Title of article  
 Name of journal  
 Series, vol. no., issue no., if any  
 Year of issue  
 Page no(s)., etc.

*For unpublished material* include the title of document (if any) and date; folio number; name of collection; depository and location (city).

*Short form:* Author's last name (above, n. 00), p. 129.

[Reference is to the original citation.]

Use of the *short form* replaces "loc. cit.," "op. cit.," "ibid.," and "idem." For clarity "see also" or "compare" is preferred to the sometimes confusing "cf." Avoid, as well, use of "f.," "ff." and "passim" in page citations.

When an article includes a catalogue, the author should consider inserting a "Key to Abbreviations" at the beginning of the section when the catalogue might otherwise be encumbered by lengthy bibliographical citations.

Use of Roman numerals is limited to references to pages so numbered (in lower case) and to denote volumes in the collections of inscriptions, such as *IG* and *CIL*. In all other instances, regardless of the form appearing in the work cited, Arabic numerals are to be used.

### Books

Works not included in the appended List of Abbreviations should be cited as in the examples that follow. If cited frequently, the first reference to a lengthy title may include the note "Hereafter cited as . . ." When a reprint edition must be used, it is the original work which is cited. Titles in non-Latin characters are transliterated. Capitalization of foreign titles follows the rules of capitalization for normal prose in that language. Foreign titles, other than in the Romance languages and German, may be translated in brackets. Publishers are omitted,

place of publication is given in conventional English form including the country or state if there is possible confusion (Cambridge, Mass., or Cambridge, Eng.).

#### *Simplest form*

R. A. G. Carson, *Coins* (London, 1962), pp. 170–72.

#### *Later editions, translations, edited works*

C. Seltman, *Greek Coins*, 2nd ed. (London, 1955), p. 19.

M. Bloch, *Land and Work in Mediaeval Europe*, trans. J. E. Anderson (London, 1967), p. 125.

E. P. Newman and R. G. Doty, eds., *Studies on Money in Early America* (New York, 1976).

R. Kiersnowski, *Pradzieje grasa* [The early history of the groat] (Warsaw, 1975), pp. 280–97.

#### *Multiple volumes*

D. B. Waage, *Antioch-on-the-Orontes*, vol. 4, pt. 2: *Greek, Roman, Byzantine and Crusaders' Coins* (Princeton, 1952), p. 97.

G. E. Bates, *Sardis*, mono. 1: *Byzantine Coins* (Cambridge, Mass., 1971), p. 129, no. 1150. [Note use of "mono." to distinguish this series from the Excavation Reports.]

J. F. Loubat, *The Medallic History of the United States of America, 1776–1825*, 1 (New York, 1878), pp. 29–36.

*The Papers of Alexander Hamilton* 6, ed. H. Syrett (New York, 1962), pl. 539.

#### *Part of series*

H. A. Cahn, *Knidos*, AMUGS 4 (Berlin, 1970), p. 190.

P. Balog, *Umayyad, 'Abbāsid and Tūlūnid Glass Weights and Vessel Stamps*, ANSNS 13 (New York, 1976), p. 28.

#### *Reference works*

*DAB*, s.v. "Washington, George" (Fitzpatrick).

*EI<sup>2</sup>*, s.v. "Aflāṭūn" (Walzer).

*RE* 22, s. v. "Praeneste," cols. 1550–51 (Redke).

*CAH* 10, p. 702, n. 1 (Momigliano).

#### *Primary sources*

August., *De Civ. D.* 20.2.

Plut., *Sull.* 34.4.

The ancient primary sources are abbreviated according to *The Oxford Classical Dictionary*, 2nd ed.

## JOURNALS

Journals are cited according to the list of Periodical Abbreviations which appears in *NL*. *Numismatic* journals published annually are cited with the year only; journals having volumes whose parts are sequentially numbered are cited by volume and date only. Journals not included in the *NL* list are cited in full including place of publication.

- B. V. Head, "On the Chronological Sequence of the Coinage of Ephesus," *NC* 1880, pp. 106–7, n. 3.
- D. J. MacDonald, "Aphrodisias and Currency in the East, A.D. 259–305," *AJA* 78 (1974), pp. 279–86.
- G. K. Jenkins, "An Early Ptolemaic Hoard from Phacus," *ANSMN* 9 (1960), pp. 17–37, esp. pp. 33–35.
- T. V. Buttrey, rev. of C. H. V. Sutherland, *Roman Coins*, in *NC* 1975, pp. 235–36.

## NUMISMATIC COLLECTIONS

References to published numismatic collections (BMC, SNG, etc.) are cited in abbreviated form. All abbreviated references, however, are to be clearly identified:

- a. Collections published in multiple volumes with a continuous numbering system are simply noted as *SNGvAulock* 7965.
- b. Other multiple volume collections must identify the appropriate subdivision in addition to the coin number (e.g. *SNGCopMacedonia* 103).
- c. If the numbering system *within each volume* or part is not continuous, further divisions (such as page number, mint or emperor) must be noted (e.g., *BMCRE* 4, p. 198, no. 1235; *BMCTroas*, p. 49, no. 12 or *BMCRE* 4, Antoninus Pius 1235; *BMCTroas Dardanus* 12).

*Sales catalogues* are cited as follows:

Hirsch 68, 3 July 1970, 1555 (or, July 3, 1970, 1555).  
Ball FPL 26, Mar. 1934, 62.

When the *name of the collection* is necessary to clarify:

Naville 1, 4 Apr. 1921 (Pozzi), 1615.

## ADDITIONAL MATTERS OF STYLE

1. *Transliteration*—Unless written in Latin alphabetic characters or in Greek, foreign words appearing in the text must be transliterated. For

Arabic, the standard system of transliteration is that of the *Encyclopedia of Islam*, 2nd ed., with the following exceptions:

- a. Use j, not dj for *jīm*.
- b. Use q, not h, for *qāf*.
- c. Do not underline digraphs such as *th*, *kh*, *sh*, etc.

For Chinese, the system of transliteration is that of R. H. Mathews, *A Chinese-English Dictionary*, rev. ed. (Cambridge, Mass., 1950); for Russian it is that of the Library of Congress (C. Beatle, *ALA Cataloging Rules for Author and Title Entries*); for South and Southeast Asian languages and Persian, it is that of the Library of Congress, Cataloging Distribution Service, *Cataloging Service Bulletin* (1976-).

2. *Greek names*—Spelling of Greek personal and place names should be consistent. (A standard reference often consulted in numismatics is *HN*.)
3. *Latin abbreviations*—Latin abbreviations are all set in roman type. However, the word *sic* is set in italic type within brackets.
4. *Italics*—Italics are used for emphasis and with unfamiliar foreign words or phrases.
5. *Tables and charts*—When tables and charts are used to convey information, the author must give attention to the physical dimensions which are limited by the size of the page. Tables are numbered and referred to in the text by that number; titles or captions should be brief. A note is required for data which are taken from another source. Notes to each table are separately identified by the lower-case alphabet without interruption to the sequence of notes to the text.
6. *Dates and numbers*—In general, numbers above ten are expressed in figures; to form their plural add s alone: 650s, not 650's. B.C. dates are all inclusive: 325–324 B.C. rather than 325–24 B.C.; the single year which is not coterminous with a single year in our calendar is noted as 325/4. “Tenth century” is always spelled out in the text; the adjectival form requires a hyphen as in “tenth-century ruler.”
7. *Cross references*—Avoid cross references to specific pages within an article. When necessary such references are indicated by zeros in the text (p. 00) with the appropriate manuscript page number circled in the margin.

## LIST OF ABBREVIATIONS

- ACNAC — Ancient Coins in North American Collections (New York, ANS).
- AMNG — *Die antiken Münzen Nord-Griechenlands*, unter Leitung von F. Imhoof-Blumer (Berlin, 1898–1935).
- AMUGS — Antike Münzen und geschnittene Steine (Berlin, 1969–).
- ANS (with suffix) — American Numismatic Society followed by the appropriate volume or series: *ANSCent (Centennial Publication*, ed. H. Ingholt [New York, 1958]); ANSNM (Numismatic Notes and Monographs); ANSNS (Numismatic Studies).
- Artuk — İbrahim Artuk and Cevriye Artuk, *İstanbul arkeoloji müzeleri tarihindeki İslâmi sikkeler kataloğu*, 2 vols. (İstanbul, 1970, 1974).
- Beamtennamen — R. Münsterberg, "Die Beamtennamen auf den griechischen Münzen," NZ 1911, p. 69; 1912, pp. 1–111; 1914, pp. 1–98; 1927, pp. 42–105.
- BMC (with suffix) — The British Museum Catalogue followed by the appropriate volume: *BMCByz* (Byzantine); *BMCLycaonia*; *BMCOr* (Oriental); *BMCVan* (Vandals); *BMCRE* (Roman Empire); *BMCRM* (Roman Medallions); *BMCRR* (Roman Republic).
- BNC — Paris, Bibliothèque Nationale, *Catalogue des monnaies de l'Empire romain* (Paris, 1976–).
- Brett — see MFA
- CAH — *The Cambridge Ancient History*, 12 vols. (Cambridge, Eng., 1924–39).
- CERP — A. H. M. Jones, *The Cities of the Eastern Roman Provinces*, 2nd ed. (Oxford, 1971).
- CIL — *Corpus Inscriptionum Latinarum* (Berlin, 1893–).
- Cohen — H. Cohen, *Description générale des monnaies de la République romaine communément appelées médailles consulaires* (Paris, 1857).
- CorNum — *Corolla Numismatica, Numismatic Essays in Honor of Barclay V. Head*, ed. G. F. Hill (London, 1906).
- Crawford — M. H. Crawford, *Roman Republican Coinage*, 2 vols. (Cambridge, Eng., 1974).
- CREAM — C. H. V. Sutherland and C. M. Kraay, *Catalogue of Coins of the Roman Empire in the Ashmolean Museum* (Oxford, 1975).
- CSHB — *Corpus Scriptorum Historiae Byzantinae*, 51 vols. (Bonn, 1828–97).
- DAB — *Dictionary of American Biography*, 20 vols., ed. A. Johnson (New York, 1920–37).
- DarSag — C. Daremberg and E. Saglio, *Dictionnaire des antiquités grecques et romaines*, 5 vols. (Paris, 1875–1919).
- Dattari — G. Dattari, *Numi Augg. Alexandrini* (Cairo, 1901).
- de Hirsch — P. Naster, *La Collection Lucien de Hirsch* (Brussels, 1959).
- de Luynes — J. Babelon, *Catalogue de la collection de Luynes*, 4 vols. (Paris, 1924–36).
- DOC — *Catalogue of the Byzantine Coins in the Dumbarton Oaks Collection and in the Whittemore Collection*, 3 vols., ed. A. R. Bellinger and P. Grierson (Washington, D.C., 1966–73).

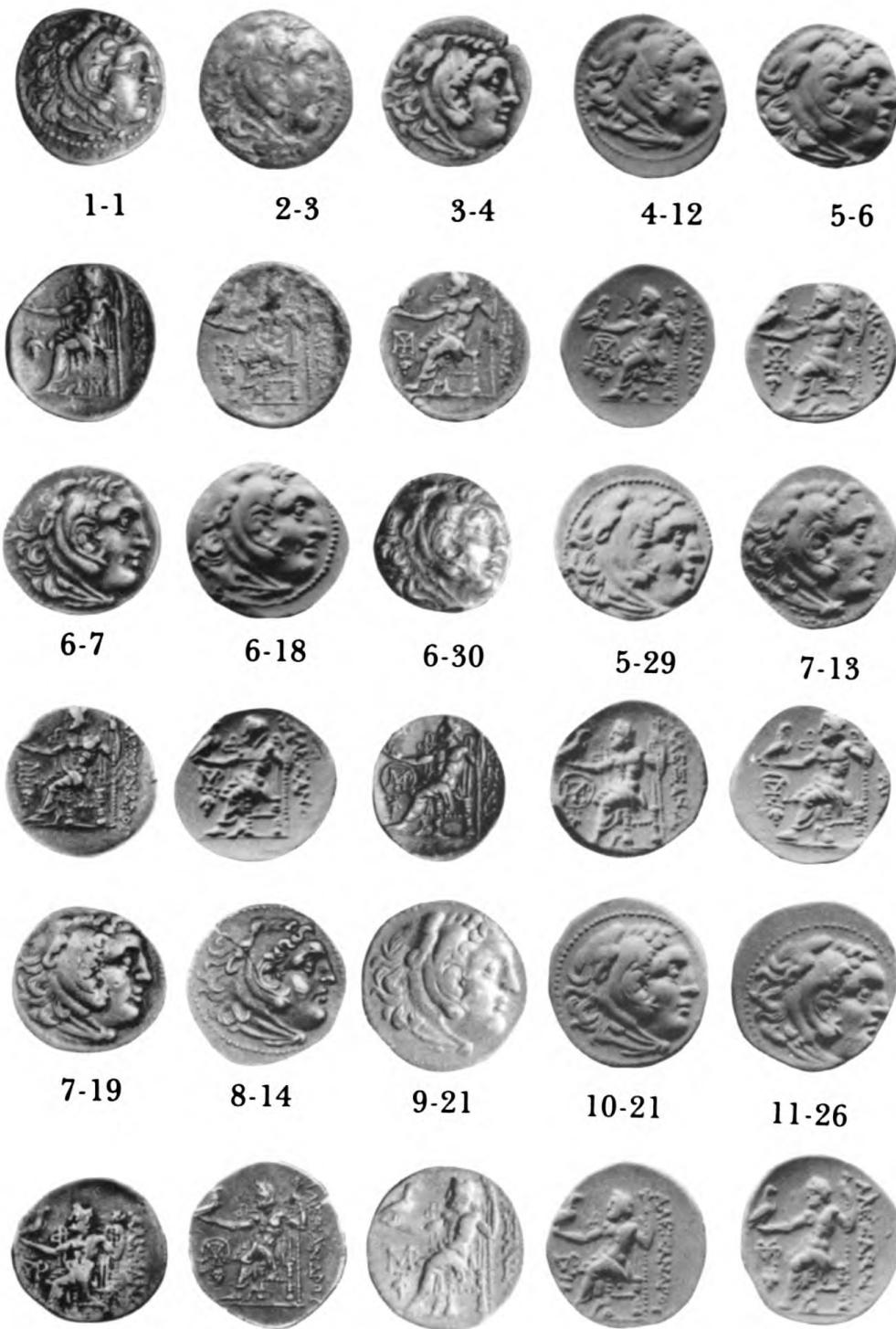
- EI<sup>2</sup>* — *The Encyclopedia of Islam*, new ed. (Leiden/London, 1960–).
- ESM* — E. T. Newell, *The Coinage of the Eastern Seleucid Mints*, ANSNS 1 (New York, 1938).
- Essays Mattingly* — *Essays in Roman Coinage Presented to Harold Mattingly*, ed. R. A. G. Carson and C. H. V. Sutherland (Oxford, 1956).
- Essays Robinson* — *Essays in Greek Coinage Presented to Stanley Robinson*, ed. C. M. Kraay and G. K. Jenkins (Oxford, 1968).
- Essays Thompson* — *Greek Numismatics and Archaeology, Essays in Honor of Margaret Thompson*, ed. O. Mørkholm and N. M. Waggoner (Wetteren, 1979).
- FMRD* — *Die Fundmünzen der römischen Zeit in Deutschland* (Berlin, 1960–).
- GrMünz* — F. Imhoof-Blumer, *Griechische Münzen* (Munich, 1890).
- HCC* — A. S. Robertson, *Roman Imperial Coins in the Hunter Coin Cabinet*, 3 vols. (London/Glasgow/New York, 1962–77).
- HN* — B. V. Head, *Historia Numorum*, new ed. (Oxford, 1911).
- Hunter* — G. MacDonald, *Catalogue of Greek Coins in the Hunterian Collection*, 3 vols. (Glasgow, 1899–1905).
- IG* — *Inscriptiones Graecae*, editio minor, 9 vols. (Berlin, 1924–40).
- IGCH* — *An Inventory of Greek Coin Hoards*, ed. M. Thompson, O. Mørkholm and C. M. Kraay (New York, 1973).
- IGRR* — *Inscriptiones Graecae ad Res Romanas Pertinentes*, ed. R. Cagnat, 4 vols. (Paris, 1906–27).
- Jameson* — R. Jameson, *Collections R. Jameson, monnaies grecques antiques*, 4 vols. (Paris, 1913–32).
- Kaisernamen* — R. Münsterberg, "Die römischen Kaisernamen der griechischen Münzen," NZ 1926, pp. 1–50.
- Khediv* — S. Lane-Poole, *Catalogue of the Collection of Arabic Coins Preserved in the Khedivial Library at Cairo* (London, 1897).
- KlMünz* — F. Imhoof-Bloomer, *Kleinasiatische Münzen*, 2 vols. (Vienna, 1901–2).
- Lavoix* — H. Lavoix, *Catalogue des monnaies musulmanes de la Bibliothèque Nationale*, 3 vols. (Paris, 1887, 1891, 1896).
- LSJ* — *A Greek-English Lexicon*, 2 vols., new ed., comp. H. G. Liddell, R. Scott and H. S. Jones (Oxford, 1940).
- LSJSuppl* — H. G. Liddell, R. Scott and H. S. Jones, *A Greek-English Lexicon, a Supplement*, ed. E. A. Barber (Oxford, 1968).
- McClean* — S. W. Grose, *Catalogue of the McClean Collection of Greek Coins*, 3 vols. (Cambridge, Eng., 1923–29).
- Mélanges* — E. Babelon, *Mélanges numismatiques*, 4 vols. (Paris, 1892–1912).
- MFA* — A. B. Brett, *Catalogue of Greek Coins, Museum of Fine Arts* (Boston, 1955).
- MIB* — W. R. O. Hahn, *Moneta Imperii Byzantinii* (Vienna, 1973–).
- Mionnet* — T. E. Mionnet, *Description de médailles antiques, grecques et romaines*, 7 vols. (Paris, 1806–13).
- MonnGr* — F. Imhoof-Blumer, *Monnaies grecques* (Amsterdam, 1883).
- Münsterberg* — see Beamennamen and Kaisernamen.

- OGIS* — *Orientis Graeci Inscriptiones Selectae*, ed. W. Dittenberger (Hildesheim, 1960).
- RE* — *Pauly's Real-Encyclopädie der klassischen Altertumswissenschaft*, neue Bearbeitung herausgegeben von Georg Wissowa (Stuttgart, 1894–).
- RGA* — W. H. Waddington, *Recueil général des monnaies d'Asie Mineure*, 4 fasc., cont. and comp. E. Babelon and T. Reinach (Paris, 1904–12).
- RIC* — H. Mattingly and E. A. Sydenham, *The Roman Imperial Coinage*, 9 vols. (London, 1923–).
- RRAM* — D. Magie, *Roman Rule in Asia Minor* (Princeton, 1950).
- RRCH* — M. H. Crawford, *Roman Republican Coin Hoards* (London, 1969).
- Sabatier* — J. Sabatier, *Description générale des monnaies byzantines*, 2 vols. (Paris/London, 1862).
- SEG* — *Supplementum Epigraphicum Graecum* (Leiden, 1924).
- SEH* — M. Rostovtzeff, *The Social and Economic History of the Hellenistic World*, 3 vols. (Oxford, 1941).
- SEHRE* — M. Rostovtzeff, *The Social and Economic History of the Roman Empire* (Oxford, 1926).
- SIG* — *Sylloge Inscriptionum Graecarum*, ed. W. Dittenberger, 3rd ed. (Leipzig 1915–24).
- SNG* (with suffix) — *Sylloge Nummorum Graecorum* followed by the appropriate volume: *SNGANS* (American Numismatic Society); *SNGvAulock* (von Aulock); *SNGCop* (Copenhagen); *SNGFitz* (Fitzwilliam Museum).
- Syd* — E. A. Sydenham, *The Coinage of the Roman Republic* (London, 1952).
- Tolstoi* — J. Tolstoi, *Monnaies byzantines*, 4 vols. (St. Petersburg, 1912–14).
- Traité* — E. Babelon, *Traité des monnaies grecques et romaines*, pt. 2, 4 vols. (Paris, 1907–32).
- Waddington* — E. Babelon, *Inventaire de la collection Waddington* (Paris, 1897).
- Weber* — L. Forrer, *Descriptive Catalogue of the Collection of Greek Coins Formed by Sir Hermann Weber*, 3 vols. (London, 1922–29).
- WSM* — E. T. Newell, *The Coinage of the Western Seleucid Mints*, ANSNS 4 (New York, 1941).



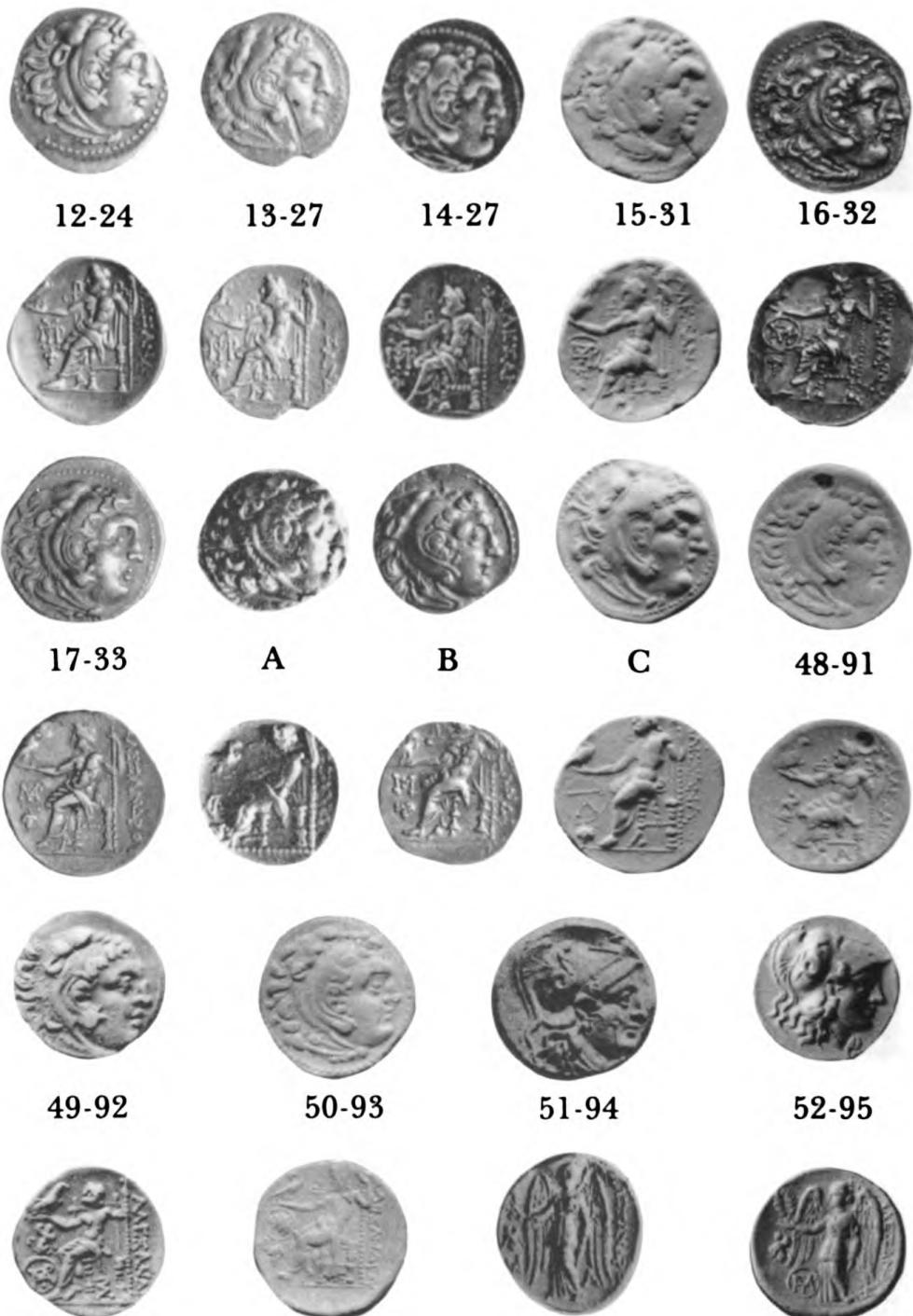


# Plate 1



Posthumous Alexander Coinage

## Plate 2



**Posthumous Alexander Coinage**

### Plate 3



**Posthumous Alexander Coinage**

## Plate 4



**Posthumous Alexander Coinage**

## Plate 5



**Posthumous Alexander Coinage**

## Plate 6



Posthumous Alexander Coinage

## Plate 7



**Posthumous Alexander Coinage**

## Plate 8



43-85



43-87



44-87



45-88



46-89



47-90



## Posthumous Alexander Coinage

## Plate 9



53-98



54-100



55-106



54-110



55-119



56-127



55-129



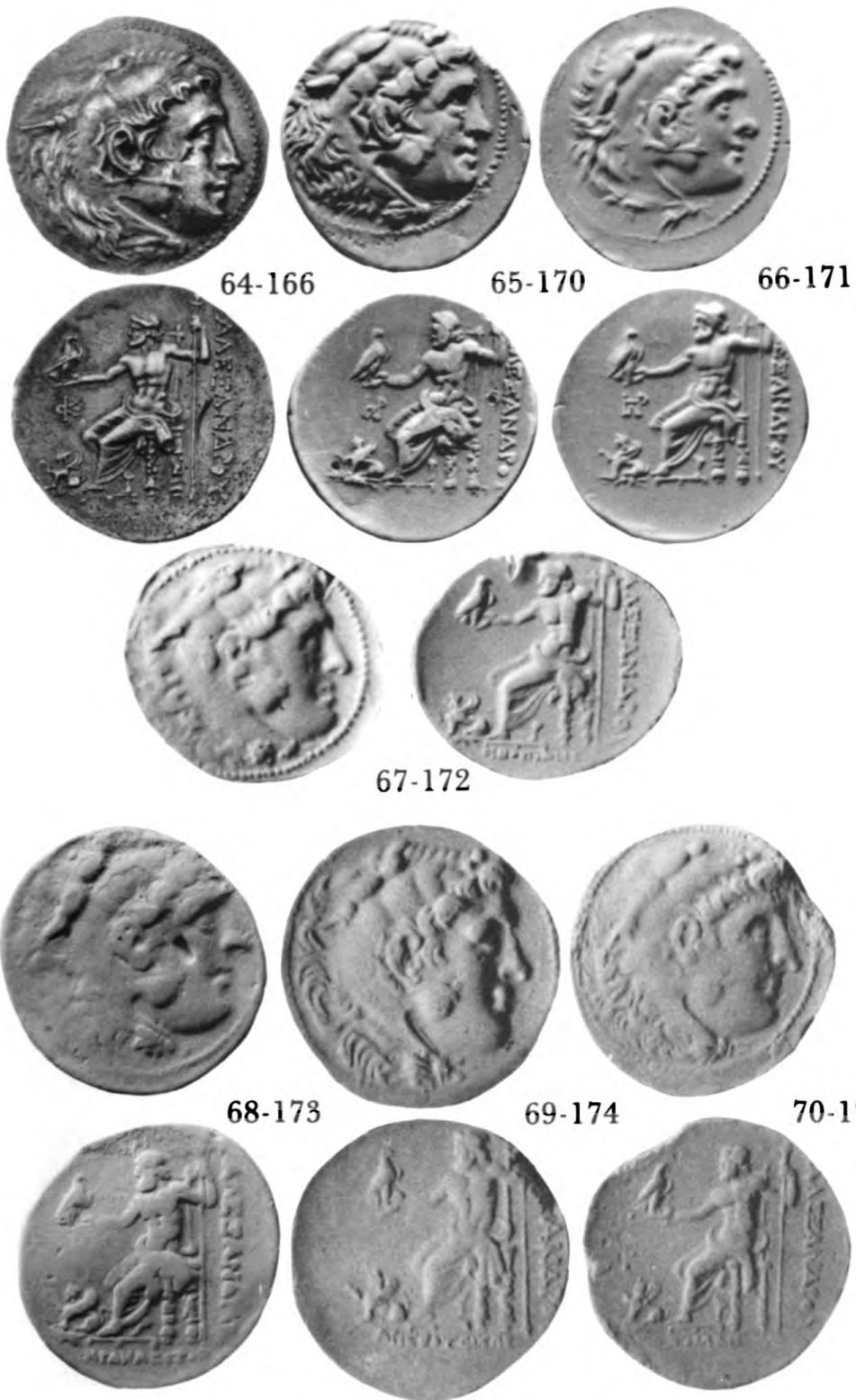
Posthumous Alexander Coinage

## Plate 10



**Posthumous Alexander Coinage**

## Plate 11



**Posthumous Alexander Coinage**

## Plate 12



**Posthumous Alexander Coinage**

## Plate 13



**Posthumous Alexander Coinage**

## Plate 14



Posthumous Alexander Coinage

Plate 15



Posthumous Alexander Coinage

## Plate 16



Posthumous Alexander Coinage

**Plate 17**



**Chios: obv. 55**



**Rhodes: obv. x**



**Posthumous Alexander Coinage**

## Plate 18



Early Cistophoric Coinage

## Plate 19



Early Cistophoric Coinage

## Plate 20



1a



2a



1b



2b



2c



3a



Pausanias Euphemou  
Magnesia

## Plate 21



4b



5a



6a



7a



8a



Pausanias Euphemou  
Magnesia

## Plate 22



Apollodoros Kallikratou  
Magnesia

Plate 23



5a



5b



8c



9d



10a



Apollodoros Kallikratou (above), Euphemos Pausaniou (below)  
Magnesia

## Plate 24



Euphemos Pausaniou (above), Pausanias Pausaniou (below)  
Magnesia

## Plate 25



13a



17a



27a



30b



32a



Pausanias Pausaniou (above), Heroguetos Zopyrionos (below)  
Magnesia

## Plate 26



26b



27b



28c



35a



36a



Erasippos Aristeou (above)  
Aristokrates Andronos, Pythodoros Demokratou (below)  
Magnesia

## Plate 27



A

A1-P1

A2-P2



A3-P3

A3-P4

A4-P5



Demetrios II

## Plate 28



A4-P6



A4-P7



A4-P8



A4-P9



A4-P10



A5-P11



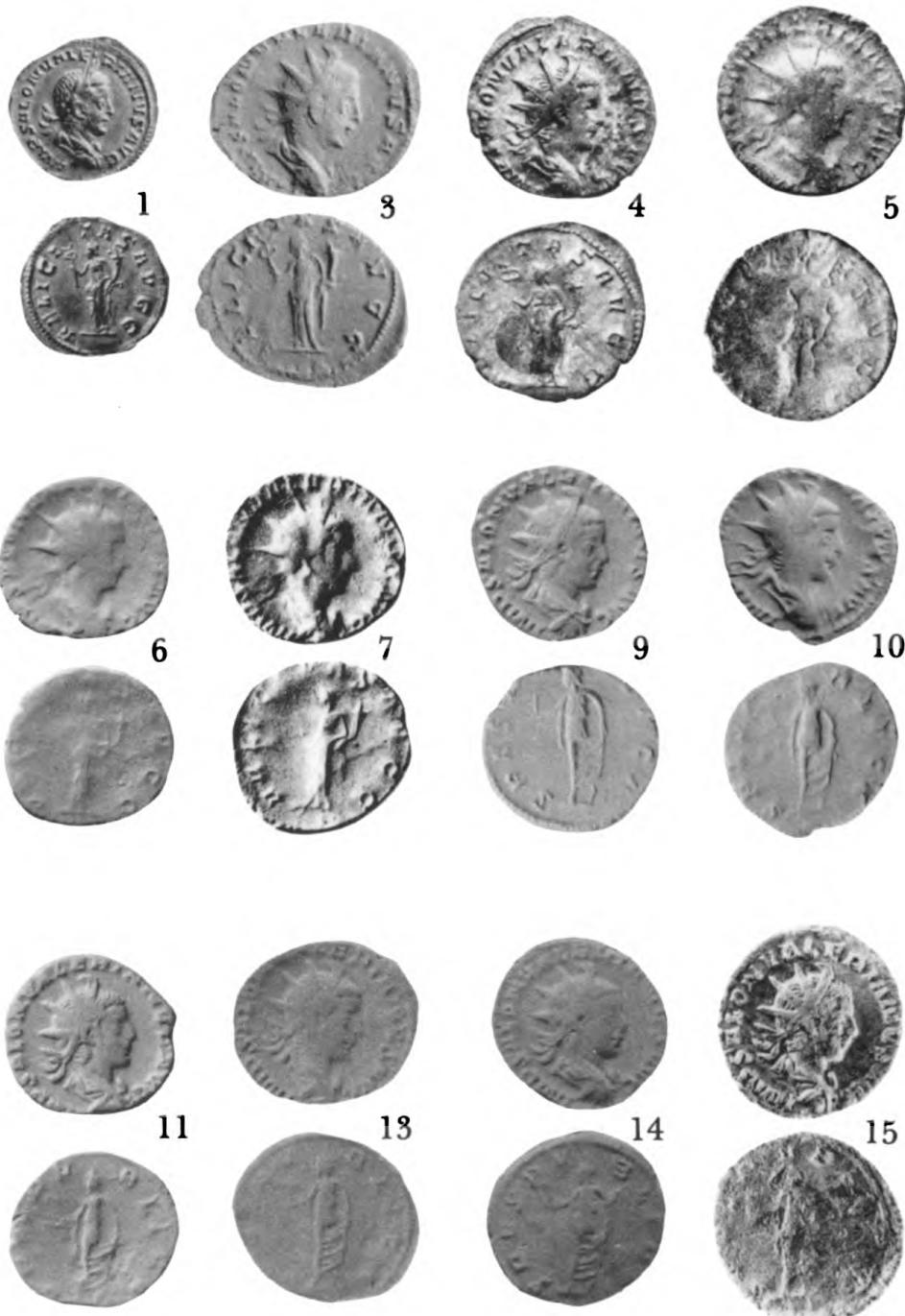
Demetrius II

## Plate 29



**Demetrius II**

## Plate 30



Saloninus as Augustus

Plate 31



Aurei From India

## Plate 32



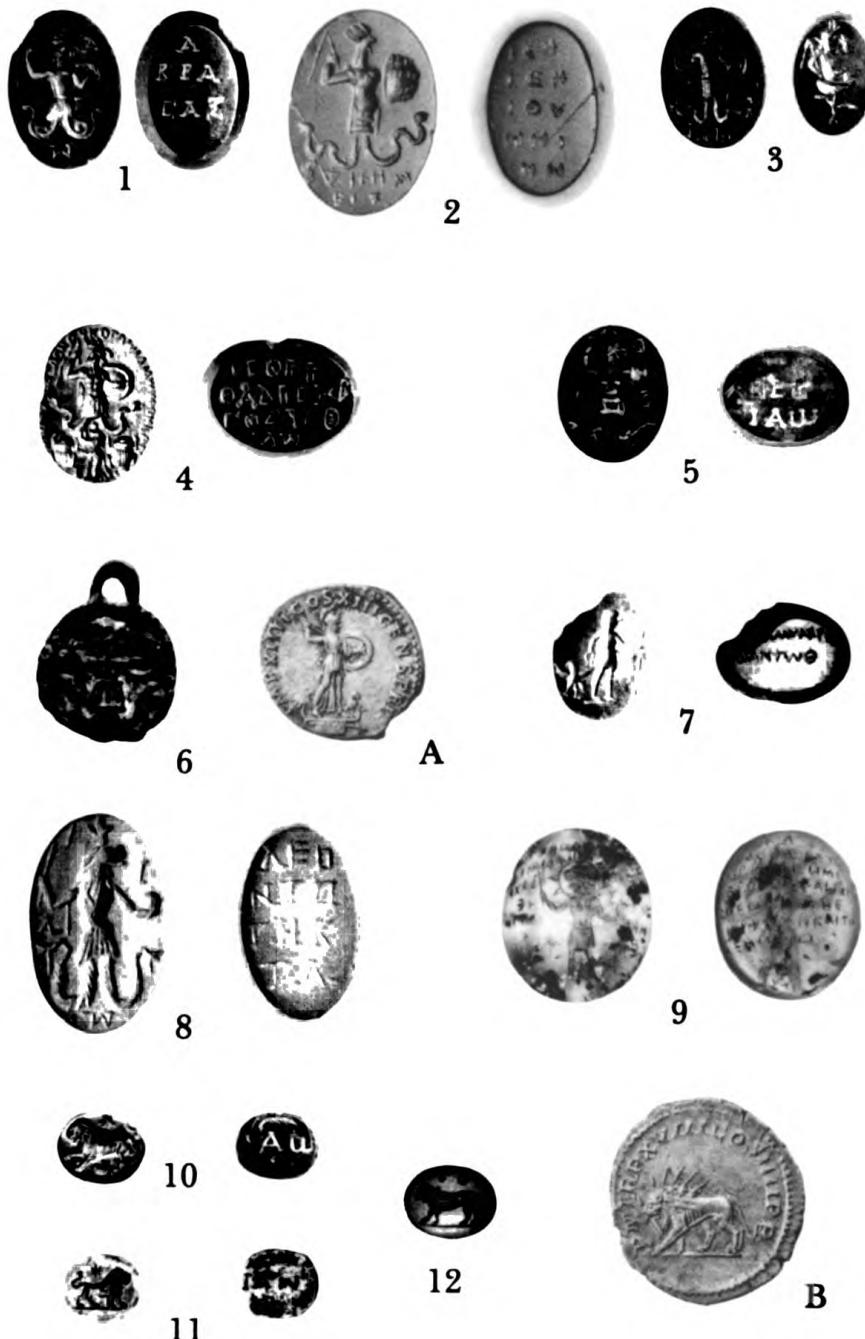
Monetary Reforms of Diocletian

## Plate 33



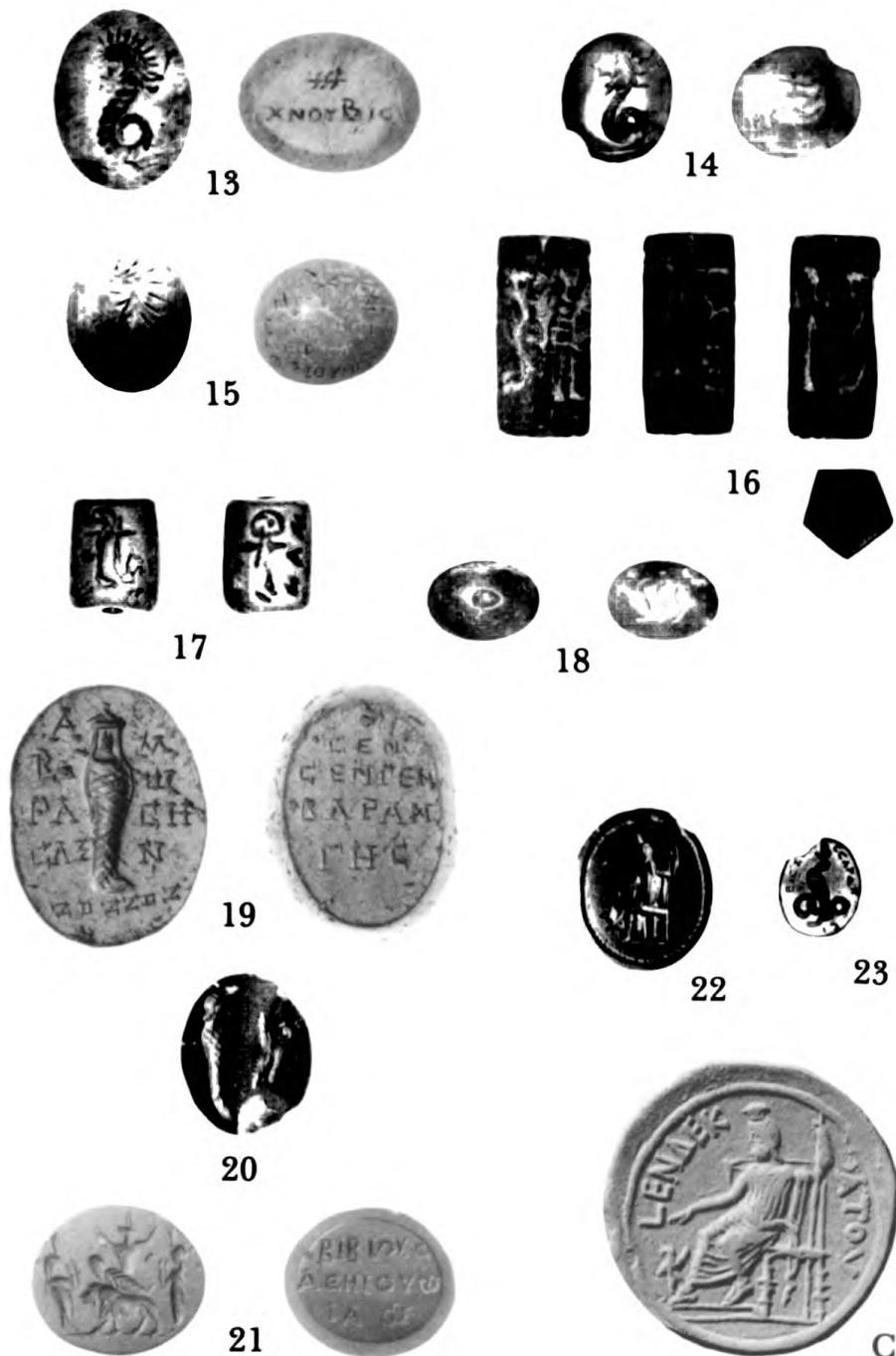
Monetary Reforms of Diocletian

## Plate 34



Ancient Magical Amulets

## Plate 35



Ancient Magical Amulets

## Plate 36



24



25



D



26



27



E



28



29

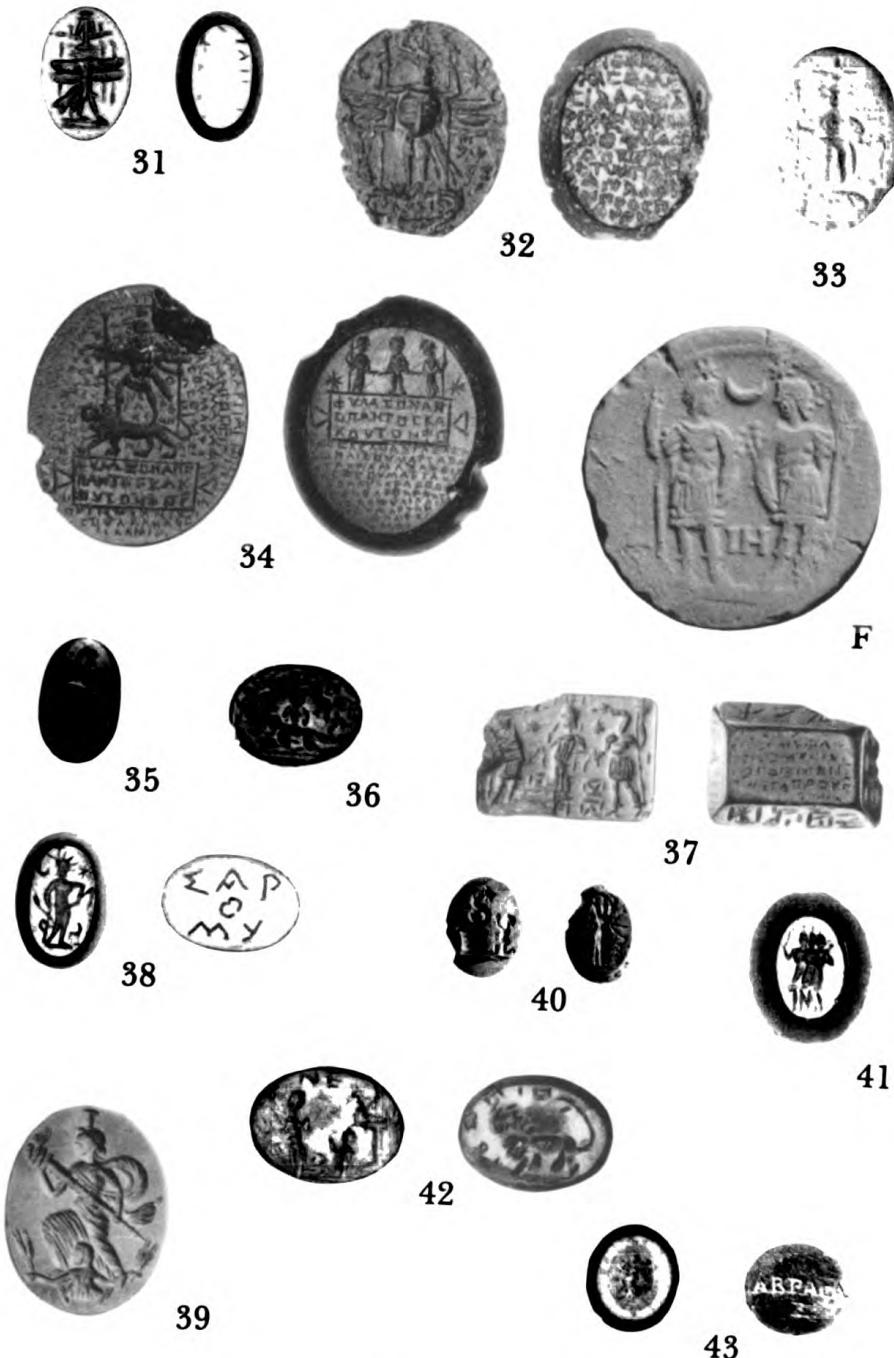


30



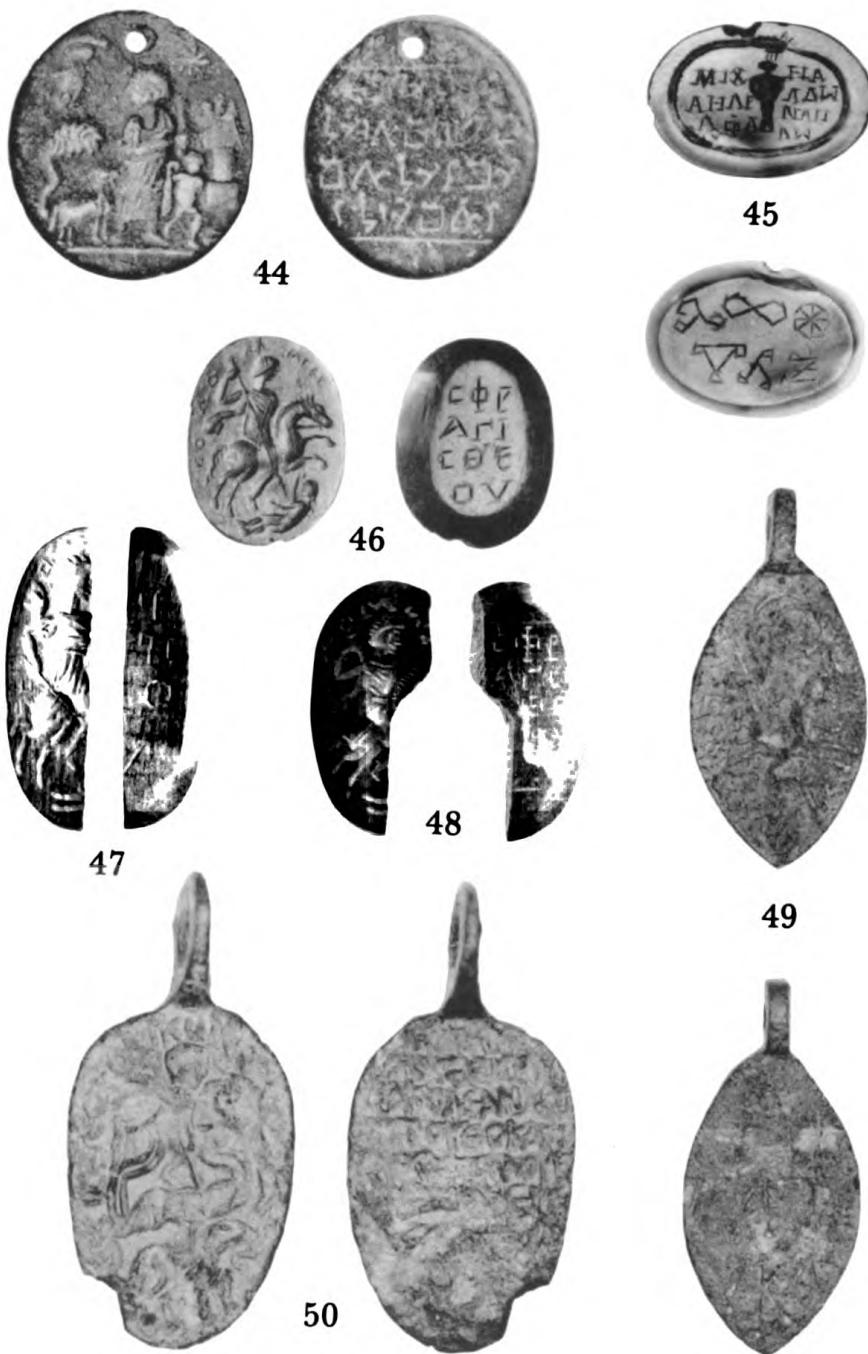
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**Plate 37**



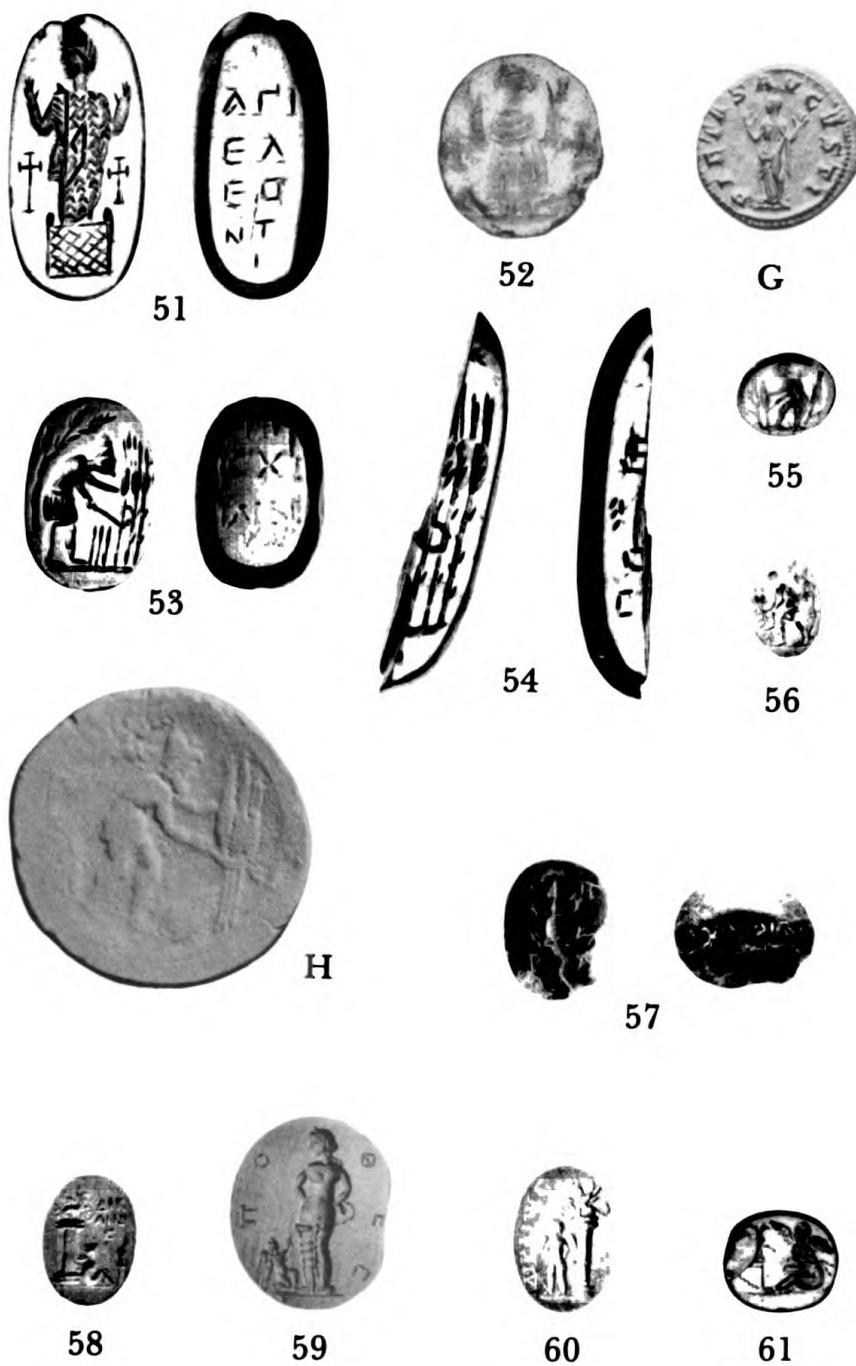
**Ancient Magical Amulets**

## Plate 38



Ancient Magical Amulets

## Plate 39



Ancient Magical Amulets

## Plate 40



62



63



65



66



67



68



70



69



72



71



73

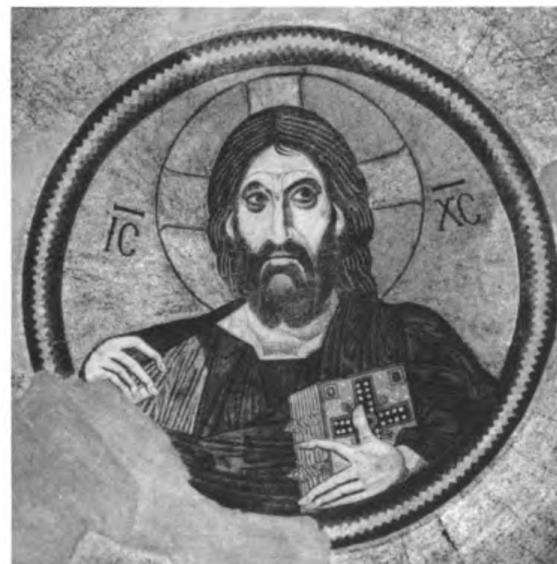


Ancient Magical Amulets

## Plate 41



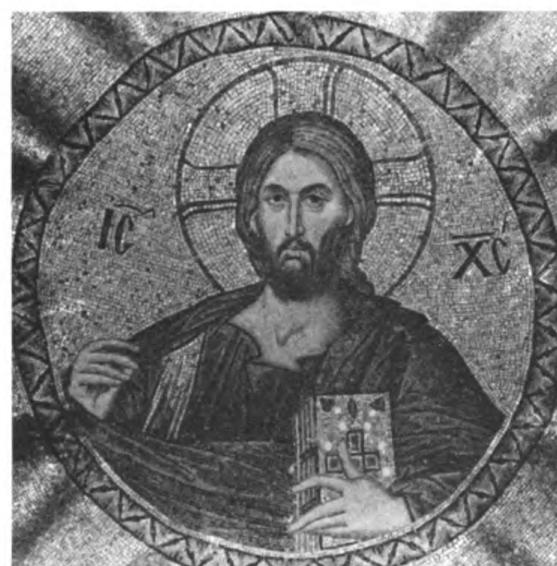
1



3



2



4

Solidus of Constantine VII

## Plate 42



5



6



7



10



8



9



Solidus of Constantine VII

**Plate 43**



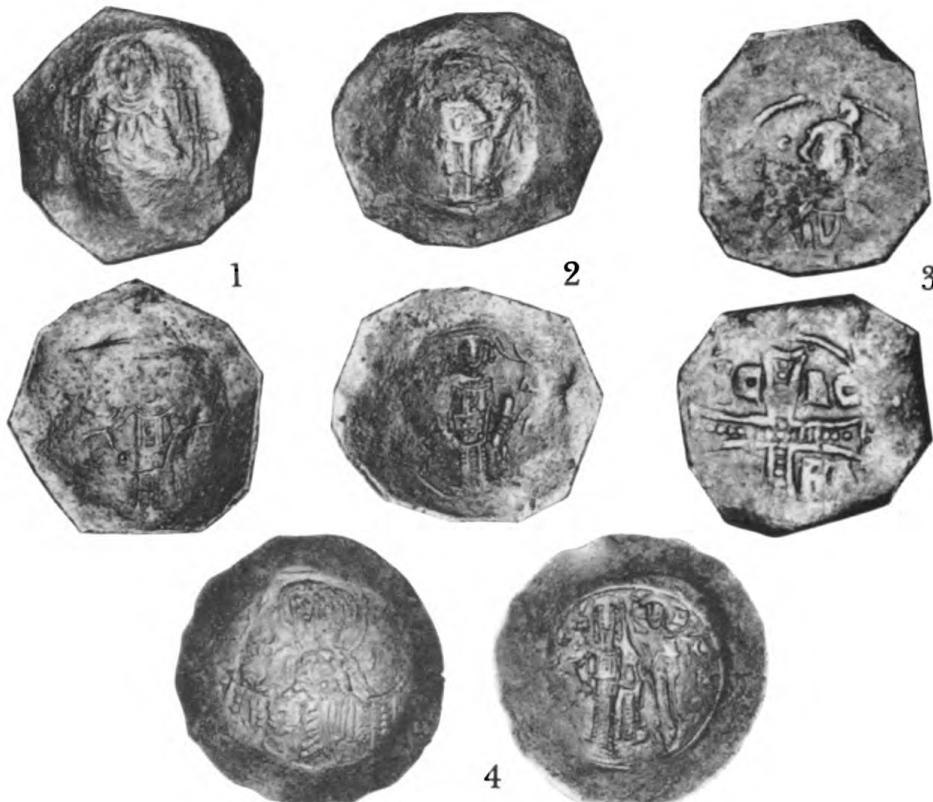
11



12

**Solidus of Constantine VII**

**Plate 44**



**Coinage of Trebizond**



**Unfinished Byzantine Die**

## Plate 45



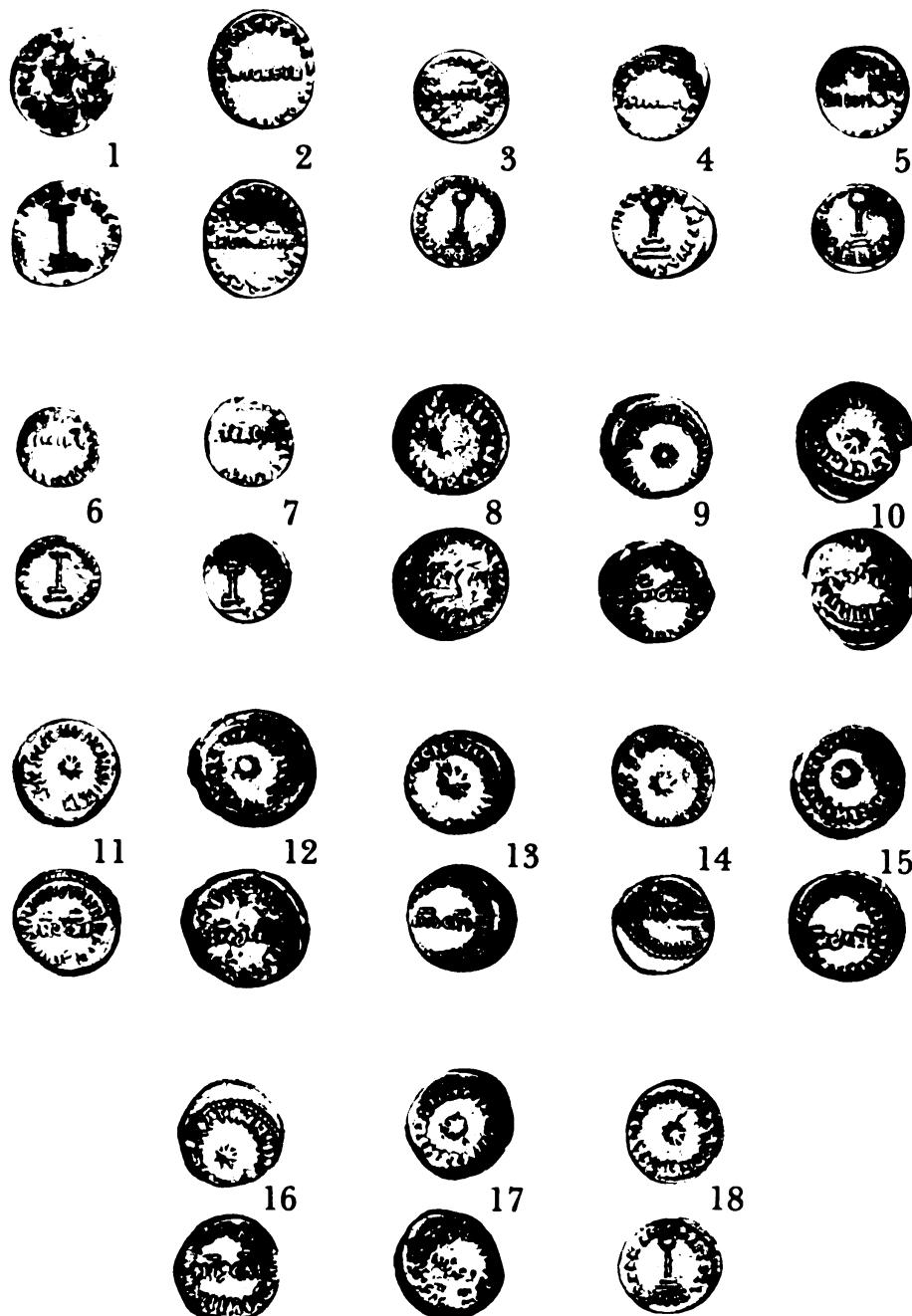
Silver Coins of Baybars I

## Plate 46



Silver Coins of Baybars I

## Plate 47



Transitional Gold Issues of North Africa

## Plate 48



al-Hasan b. Muḥammad

## Plate 49



1



2



3



4

al-Hasan b. Muhammad

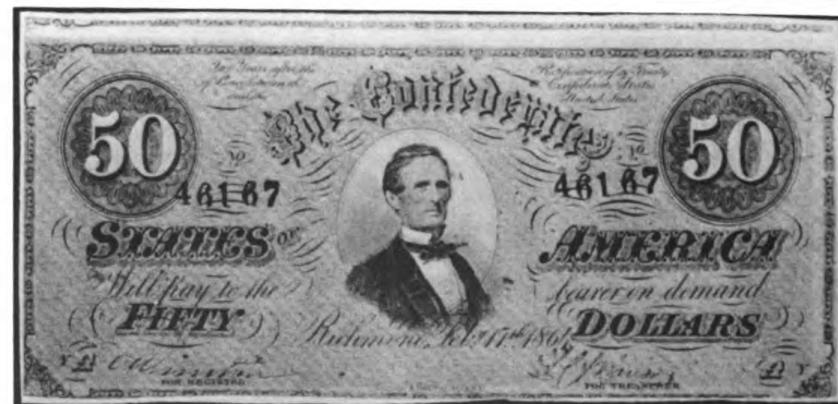
## Plate 50



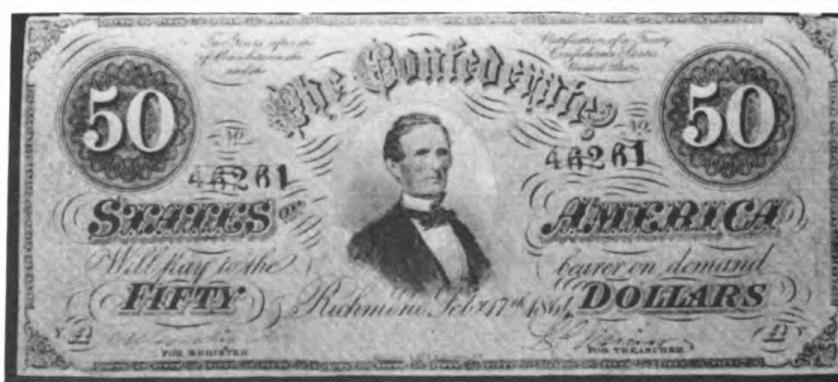
1



2



3



4

## Confederate Issues

Plate 51



5



6



7



8

Confederate Issues







CJ  
15  
.AS18  
no. 25

THE AMERICAN NUMISMATIC SOCIETY

//

# MUSEUM NOTES

25

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THE AMERICAN NUMISMATIC SOCIETY

NEW YORK

1980

# THE AMERICAN NUMISMATIC SOCIETY

*Founded 1858 - Incorporated 1865*

BROADWAY BETWEEN 155TH & 156TH STREETS  
NEW YORK, N.Y. 10032

**PURPOSES:** The Society was founded for the collection and preservation of coins, medals, decorations and paper money and for the investigation of their history and other subjects connected therewith.

**MEMBERSHIP:** Applications for membership are welcomed from all interested in numismatics. Inquiries regarding membership should be addressed to the Secretary of the Society.

**DUES:** The annual dues for an Associate Membership are \$15.00. Issues of the *Notes and Monographs*, *Museum Notes* and *Numismatic Literature* are distributed to all members.

**PUBLICATIONS:** *The American Numismatic Society Museum Notes* is a scholarly journal containing articles on numismatic topics. The *Numismatic Notes and Monographs* consist of separately issued publications, each on a single topic. *Numismatic Studies* is a series accommodating works in a larger format. *Numismatic Literature*, published twice each year, is an international abstract bibliography of the current literature in the profession. The Society is also engaged in the systematic publication of its entire Greek coin collection in *Sylloge Nummorum Graecorum: American Numismatic Society*.

**MUSEUM:** The Society maintains a museum located in uptown Manhattan, New York City, which houses its offices, collections and library. Collections embrace coins of all periods from their inception to modern times, medals and decorations. Selections from its cabinets are on display in an exhibition. The library, consisting of some 70,000 titles, covers all branches of numismatics.

The museum is open to Members and the public from 9 A.M. to 4:30 P.M. on Tuesdays, Wednesdays, Thursdays, Fridays and Saturdays. In addition, the public exhibition is open on Sundays from 1 to 4 P.M. The museum is closed on Mondays and the following holidays: New Year's Day, Lincoln's Birthday, Independence Day, Election Day, Thanksgiving Day, the fourth Friday in November, the fourth Saturday in November, December 24, Christmas Day. The public exhibition is open to the public from 9 A.M. to 4:30 P.M. on the fourth Friday and the fourth Saturday of November.

THE AMERICAN NUMISMATIC SOCIETY  
MUSEUM NOTES  
25



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NEW YORK  
1980

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*ANSMN* 25 (1980)

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## COINS FROM THE WILLIAM P. WALLACE COLLECTION

(PLATES 1-2)

NANCY M. WAGGONER

All students of ancient Greek numismatics should be aware of *The Euboian League and Its Coinage*, published by the late William P. Wallace as ANSNNM 134 (1956). His numismatic interests embraced the output of all periods from all Euboean mints, as attested by several published articles and by a great deal of unpublished material now housed in the American Numismatic Society. It was Professor Wallace's wish that the most important items in his collection, chiefly from Carystus, Chalcis, Eretria and Histiae, be added one day to the Society's collection of Greek coins. This was fulfilled at nominal cost to the Society in 1978. The present article proposes to set forth only a few of the more significant specimens among the 194 coins that were acquired. It may also be considered an expression of gratitude to Professor Wallace's son and daughter, Professor Malcolm B. Wallace and Mrs. P. M. Wallace Matheson, who did so much to make this recent acquisition possible.

As is known, Euboean coinage as a whole falls into three main periods, separated by fairly long intervals. Eretria, Chalcis and Carystus strike in the archaic period from the third or last quarter of the sixth century B.C. to the second quarter of the fifth; League coinage is first issued just before and after 400 which reflects opposition to the weakening Athenian empire; and then from about 350, when the mint of Histiae first comes into operation, we have both federal and civic issues.<sup>1</sup>

The Wallace collection contains no examples of the earliest, incuse coinage that can with certainty be attributed to a Euboean mint.

<sup>1</sup> The minting history of Euboea is summarized by Colin M. Kraay, *Archaic and Classical Greek Coins* (London, 1976), pp. 88-94, (cited hereafter as ACGC).

There is included, however, a tetrobol of Euboeic weight (Plate 1, 1),<sup>2</sup> an issue normally given to Dicaea in Macedonia, a colony of Eretria. It is an issue which Wallace labelled "Eretria." It cannot yet be proved, for want of an inscription, that Eretria struck coins with early incuse reverse. In 1955 Kenneth Jenkins published a unique tetradrachm,<sup>3</sup> then newly acquired by the British Museum, with Eretrian heifer on the obverse and a "Union Jack" reverse. He suggested Dicaea as a tentative attribution, citing comparable early Mende reverses. Wallace, who saw a second specimen in trade, felt that Eretria was the more likely mint, basing his opinion on relevant lapidary inscriptions, ca. 550–525 B.C.<sup>4</sup> The unique, inscribed Carystus tetradrachm, with similar "Union Jack" reverse, that surfaced among the contents of the Asyut hoard,<sup>5</sup> supports Wallace's identification which Kraay<sup>6</sup> apparently follows.

Wallace left no record of the reason for his Eretrian attribution regarding the tetrobol. Its reverse incuse takes the form of a mill-sail pattern, as do some Mende issues. In most cases the fourth "sail" has been obliterated. However, the Wallace piece was struck with the same reverse die used with an obverse which includes an Acanthus-type floral symbol above the heifer and whose reverse clearly reveals four "sails."<sup>7</sup> Despite these Macedonian overtones, the reverse seems quite distinct from the strictly quadripartite incuse on tetrobols which do bear the Dicaea ethnic.<sup>8</sup> One would surely think that the two varieties were contemporaneous; and it seems a little odd that the colony of

<sup>2</sup> 2.22 g = Glendining, Feb. 12, 1958 (Lockett), 1235 = Naville 13, May 15, 1905, 448. *Obv.*: Heifer r. with head turned back to lick raised rear hoof; *rev.*: "mill-sail" incuse.

<sup>3</sup> K. Jenkins, "Greek Coins Recently Acquired by the British Museum," *NC* 1955, p. 136, no. 7.

<sup>4</sup> W. P. Wallace, "The Early Coinages of Athens and Euboia," *NC* 1962, p. 37, n. 3.

<sup>5</sup> M. Price and N. Waggoner, *Archaic Greek Silver Coinage. The Asyut Hoard* (London, 1975), n. 250.

<sup>6</sup> ACGC, p. 91.

<sup>7</sup> For example, Hess, Apr. 14, 1954, 90 = Jameson 3, 1949 = Weber 1961.

<sup>8</sup> For example, Hirsch 24, June 28–30, 1960, 52; and Bourgey, June 17–18, 1959, 232.

Dicaea would have tetradrachms or fractions, when the important mother city did not.

The two-type issues that can be unquestionably associated with Eretria undoubtedly begin, as does that of Carystus, with the first appearance of the Athenian "owls," around 525 if we choose Colin Kraay's dates, or closer to 510 if we follow Wallace.<sup>9</sup> The series at Eretria starts with widespread flans which are much more uncommon than the coins of thick, more compact fabric that follow. The Wallace tetradrachm (Plate 1, 2, 16.44 g) provides the ANS with its first specimen of this early fabric. Regrettably, both sides have been somewhat obscured by an agglutination that to date defies removal. However, the obverse type is clearly heifer l. with head reverted, licking raised l. rear hoof, and bird perched on her back. The letter E appears retrograde below. This is accompanied on the reverse by the Eretrian sepia. With regard to the lower denominations, we may now add to our collection of four didrachms and one drachm two additional didrachms (Plate 1, 3-4) and two drachms (Plate 1, 5-6).<sup>10</sup> When these two didrachms and the two drachms are viewed in juxtaposition, as illustrated, the difference between spread and compact fabric becomes readily apparent. The letter E appears retrograde on the obverse of no. 3 and on the reverse of no. 4; it has been correctly inscribed on the obverse of no. 5, and special attention is drawn to the three Greek letters EPE (partially off flan along the bottom) on the reverse of no. 6.

Toward the end of the fifth century and in reaction to Athenian interference in the area, a League coinage was struck in the name of the Euboeans, and probably at Eretria as suggested by the Eretrian heifer adopted for one side of this coinage.<sup>11</sup> A female head, Euboea (?), occupies the other side. There were two separate issues, one probably in 411/10 and another in 405/4.<sup>12</sup> Neither was very large, as Wallace re-

<sup>9</sup> See C. M. Kraay, "The Archaic Owls of Athens," NC 1956, pp. 43-68; W. P. Wallace (above, n. 4), pp. 23-42.

<sup>10</sup> Plate 1, 3, 8.49 g; 4, 8.02 g; 5, 4.16 g; 6, 4.21 g.

<sup>11</sup> The only other member at the outset appears to have been Chalcis. For a summary of League activity, see Wallace's *The Euboian League and Its Coinage*, ANSNNM 134 (1956), pp. 41-42.

<sup>12</sup> See above, n. 11, p. 7.

corded only five obverse dies in all. The League coinage was revived in several denominations 40 years later; but for these initial issues only staters are known. On the first (Plate 1, 7) the recumbent heifer occupies the obverse, while the female head appears on the reverse facing the letters EYB. On the second issue (Plate 1, 8), the types are reversed: the head is now placed on the obverse, and the letters EY occur below the heifer on the back. These two pieces are published in Wallace's study as nos. 1 (*IGCH* 42) and 13, respectively. Interested readers should know their present whereabouts.<sup>13</sup>

Among the Euboean issues formerly in the Wallace collection of most interest to this writer are those which fall between 196, the year in which Flamininus issued the Roman Proclamation of Freedom, and 146 B.C. Within this period begin the spread flan coinages chiefly of Athens and several cities in Asia Minor, many of which are characterized by the wreath that encircles the reverse type. One will recall the hoard of well over 5000 such tetradrachms which surfaced a few years ago in Turkey and which have been appearing on the market ever since.<sup>14</sup> In addition to these mints, Euboean cities also issued rare wreathed tetradrachms but, unlike most mints in Asia Minor, a few smaller related denominations as well. Examples of the latter that now come to us fill conspicuous holes in our trays. Research, not by any means exhaustive, has led to the following tabulations.<sup>15</sup>

<sup>13</sup> Also to be put on record as now belonging to the Society's collection are two didrachms formerly thought to have been struck at Carystus to mark the sojourn at Chalcis (*sic*) of Antiochus the Great in 192/1 B.C. Wallace has argued convincingly that these coins belong, rather, to a late third century tyrant of Carystus known only from this numismatic evidence ("A Tyrant of Syracuse," *Essays Robinson*, pp. 201-9). The obverse carries an anonymous royal male head; the reverse type is Nike in a biga, with ethnic in exergue. Our two Wallace specimens are his obv. 5, rev. 7a and b.

<sup>14</sup> *Coin Hoards* 1, 87A, B; 2, 90. General discussion of these issues is reserved for our conclusion, below.

<sup>15</sup> It should be emphasized that these tabulations with regard to second century mints at Carystus, Chalcis and Eretria are based only on records most readily available. They do not reflect solicitation of unpublished material from any public cabinets or private collections. The major purpose of this article is to put on record the newly acquired Wallace specimens for those who wish to pursue the subject.

*Carystus* drachms: *Obv.*: Bearded head of Herakles r., within dotted border.

*Rev.*: Bull r. over club; KARY; magistrate's name; all within wreath.

The ANS has for some time owned two rather shabby specimens with names of magistrates already known. The three Wallace drachms produce three different names which this writer has not yet found for this series at Carystus.

	<i>Name</i>	<i>Ref.</i>	<i>Total</i>
ΦΙΛΩΝ		ANS = Hirsch 25, Nov. 29, 1909 (Philipsen), 921 (see NZ 60 [1927], p. 62); NC 1890, p. 319, 16	2
ΑΡΙΣΤΩΝ		ANS; Grose 2, 5658; Schlessinger 13, Feb. 14, 1935 (Hermitage), 882	3
ΤΙΜΑ ΓΩΑΣ		Mionnet, Suppl. 4, p. 355, 26	1
ΑΜΕΙΝΙΑ		ANS (Wallace, 4.185 g, Plate 2, 9)	1
ΛΥΚΟ		ANS (Wallace, 3.46 g, Plate 2, 10)	1
ΙΣΑ ΓΟΡΑΣ		ANS (Wallace, 4.10 g, Plate 2, 11)	1
ΠΑΡΡ[ΑΣΙΟΣ]		SNGCop 419	1
			10

Thus, the three new names added from the Wallace collection are Isagoras, Ameinias and Lyko.

*Chalcis* octobols: *Obv.*: Female head r., within dotted border.

*Rev.*: Eagle standing l., with outstretched wings, combating snake; KAΛKI; monograms or magistrate's name.

To the one octobol in our collection are now added three more examples. Altogether, there are listed below 22 specimens including at least 7 duplicates, 5 to 7 obverse dies, 2 sets of monograms, and 4 magistrate's names written out in full.



1. Münzen und Medaillen FPL 297, Feb. 1969, 5 = Weber 3364



- 2. ANS (Wallace, 5.57 g, Plate 2, 12)
- 3. Jameson 3, 2073
- 4. Hirsch 32, Nov. 14–15, 1912, 486
- 5. Hirsch 32, Nov. 14–15, 1912, 487
- 6. Naville 6, Jan. 28, 1924 (Bement), 1067
- 7. Hamburger, May 27, 1929 (Kaufmann), 276 = Hirsch 13, May 15, 1905 (Rhousopoulos), 1881
- 8. *BMC Central Greece*, p. 114, 87

ΑΛΕΞΩΝ

- 9. ANS (Wallace, 5.13 g, Plate 2, 13) = Münzen und Medaillen FPL 235, Aug. 1963, 13
- 10. Naville 17, Oct. 3, 1934, 463 = Naville 1, Apr. 4, 1921 (Pozzi), 1484

ΑΡΙΣΤΕΙΔΗΣ

- 11. Knobloch FPL 33, Apr. 1968, 828 = Hirsch 25, Nov. 29, 1909 (Philipsen), 930

ΜΕΝΕΔΗ

- 12. *BMC Central Greece*, p. 114, 86
- 13. Hirsch 21, Nov. 16, 1908 (E. F. Weber), 1608 = Hirsch FPL, Feb. 1907, 1818
- 14. Wallace Coll. (still in possession of Wallace family) = Naville 16, July 3, 1933, 1175 = Naville 12, Oct. 18–23, 1926, 1391 = *Catalogue of Ancient Greek Coins Collected by Godfrey Locker Lampson* (London, 1923), 207 = Hirsch 25, Nov. 29, 1909 (Philipsen), 929
- 15. *Monnaies grecques de la collection Photiadadès pacha* (Paris, 1890), 467
- 16. ANS = Naville 11, June 18–20, 1925, 557
- 17. Münzen und Medaillen 54, Oct. 26, 1978, 225
- 18. *SNG Cop* 447 (mintmarks off flan)

- 19. ANS (Wallace, 5.39 g, Plate 2, 14) = Feuardent, June 9, 1913,  
209 (mintmarks erased)
- 20. *Hunter* 2, p. 46, 18 (not illus.)
- 21. Anthedon Hoard<sup>16</sup>

ΞΕΝΟΚΡΑΤΗΣ

- 22. Numismatic Fine Arts, Feb. 23–24, 1978, 101 = Glendining,  
May 27, 1959 (Lockett), 1621 = Naville 6, Jan. 28, 1924,  
1066 = Weber 3365

During this period Eretria struck tetradrachms, octobols, tetrobols and triobols. Only the tetradrachms are wreathed.<sup>17</sup> The interest in this series rests in the frequency with which the same magistrate's name recurs on the different denominations, proof that all four denominations belong together, whether wreathed or not.

*Eretria* tetradrachms: *Obv.*: Head of Artemis r., within dotted border.

*Rev.*: Cow standing r., with fillets; above, EPETPIΩN; below, magistrate's name; all within wreath.

octobols: *Obv.*: Head of Artemis r.

*Rev.*: Cow recumbent r.; above, EPETPIΩN; below, magistrate's name.

tetrobols: *Obv.*: Female head r.

*Rev.*: Vine branch with two pendant bunches of grapes; above, EPETPIΩN; below, magistrate's name.

<sup>16</sup> *IGCH* 223. This hoard was published by Margaret Thompson, "The Beginning of the Athenian New Style Coinage," *ANSMN* 5 (1952), pp. 25–33. For this coin see p. 26, no. 2 (not illus.).

<sup>17</sup> These are the tetradrachms which L. Robert identifies as the "taurophori" or bull-bearing coins ("Monnaies hellénistiques. II. L'argent d'Athènes Stéphanéphore," *RN* 1977, pp. 43–45). Boehringer applies this term to the Zeus/Artemis on bull coins of the Macedonian First District (C. Boehringer, *Zur Chronologie mittelhellenistischer Münzserien 220–160 v. Chr.* AMUGS 5 [Berlin, 1972], pp. 31–38; A. Giovannini concurs with Boehringer [n. 29, below, pp. 60–61]). In his review of Boehringer, J. R. Melville Jones is not convinced that either coinage should be associated with the "taurophori" (*NC* 1973, p. 228). One tends to ask, along with L. Robert, "How would there be time for the Athenians to supply to Rome 10,000 taurophori then in the treasury at Delos (166 B.C.), if they are, indeed, the Zeus/Artemis coins which could not have been struck until after 167?"

triobols: *Obv.*: Female head r.

*Rev.*: Cow's head facing, with fillets; above, EPETPIΩN; below, magistrate's name.

The ANS possesses three tetradrachms, two with the name of Phanias from the Anthedon hoard, and one from the Burton Y. Berry collection (*SNGBerry* 625) with the name of Philippos. An octobol bearing the name of Philippos now in the ANS is also from the Anthedon hoard;<sup>18</sup> and the name Epiteles appears on a second ANS octobol. However, until now we possessed no smaller fractions. The Wallace collection gives us one tetrobol (2.77 g; Plate 2, 15) with Phanias, and three triobols with Phanias, Damasias and Hagnon (1.77 g, 1.68 g, 1.83 g; Plate 2, 16–18, respectively). Altogether, eight names are distributed among the four silver denominations, as indicated below, a record which may be of some interest, despite its lacunae.<sup>19</sup>

### ΦΑΝΙΑΣ

- Tetradrachms: ANS (Anthedon hd., 2 specimens as noted above, n. 18); Anthedon hd. (*ANSMN* 5, p. 27, no. 2; pl. 8, 5); Münzen und Medaillen, June 17–19, 1954, 1126; Bank Leu, May 28, 1974, 241
- Octobols: *Hunter* 2, p. 47, 6; *BMC Central Greece*, p. 123, 42; *SNGCop* 497; Anthedon hd. (2 specimens, *ANSMN* 5, p. 27, no. 6)
- Tetrobols: *Hunter* 2, p. 48, 9; ANS (Wallace); *BMC Central Greece*, p. 123, 43; *SNGCop* 498; Hirsch 25, Nov. 29, 1909 (Philipsen), 937 = Naville 6, Jan. 28, 1924, 1074; Naville 1, Apr. 4, 1921 (Pozzi), 1502 = Ratto, Apr. 4, 1927, 1323; *Weber* 3397; Cahn 60, July 2, 1928, 548
- Triobols: ANS (Wallace); *McClean* 2, 5714; *BMC Central Greece*, p. 124, 45; *SNGCop* 501; *Weber* 3398; Hirsch 13, May 15, 1905; *deLuynes* 2022

<sup>18</sup> The two ANS tetradrachms and octobol from this hoard are illustrated by Margaret Thompson (above, n. 16), p. 27, nos. 2, 5 and pl. 8, 3, 5, 6, respectively. The tetradrachm of Chalcis, p. 26, no. 1, pl. 8, 2, is also now in the ANS collection.

<sup>19</sup> This whole series is discussed by W. P. Wallace, "Some Eretrian Mint Magistrates," *Phoenix*, vol. 4, no. 1 (Summer, 1950), pp. 21–26. Cited hereafter as *Phoenix*.

## ΔΑΜΑΣ

- Tetradrachms: Paris, Berlin (as noted by Wallace, *Phœnix*, p. 22, n. 4)  
 Octobols: *BMC Central Greece*, p. 123, 41; Bank Leu, May 4, 1976,  
               221 = Feuardent, June 9, 1913, 211 = *Collection du  
               Vicomte de Sartiges* (Paris, n.d.), 476 = Sotheby, Feb.  
               3–5, 8–11, 1909, 525; Bank Leu, May 9, 1973, 165 =  
               Hess-Leu, Apr. 16, 1967, 217 = Jameson 4, 2485  
 Tetrobols: —  
 Triobols: ANS (Wallace)

## ΑΓΝΩΝ

- Tetradrachms: Jameson 3, 2075; Anthedon hd. (*ANSMN* 5, p. 26, Eretria  
               no. 1, pl. 8, 2)  
 Octobols: Glendining, May 27, 1959, 1625; Anthedon hd. (*ANSMN*  
               5, p. 27, no. 5, pl. 8, 6)  
 Tetrobols: *Hunter* 2, p. 48, 8  
 Triobols: ANS (Wallace); *BMC Central Greece*, p. 124, 44

## ΦΙΛΙΠΠΟΣ

- Tetradrachms: ANS (*SNG Berry* 625); Anthedon hd. (*ANSMN* 5, p. 27,  
               no. 3); Babylon hd.<sup>20</sup>  
 Octobols: ANS (Anthedon hd. as noted above, n. 18)  
 Tetrobols: *SNG Cop* 499  
 Triobols: —

## ΕΠΙΤΕΛΗΣ

- Tetradrachms: Glendining, May 27, 1959 (Lockett), 1624 = Naville 4  
               (1922), 551  
 Octobols: ANS  
 Tetrobols: —  
 Triobols: —

<sup>20</sup> *IGCH* 1774. The three Eretrian tetradrachms cited as coming from this hoard  
 are listed by Wallace, *Phœnix*, p. 22.

### ΧΑΡΙΔΑΜΟΣ

Tetradrachms: Anthedon hd. (*ANSMN* 5, p. 27, no. 4); Babylon hd.  
(*IGCH* 1774)

Octobols: *Hunter* 2, p. 47, 7

Tetrobols: ——

Triobols: ——

### ΑΜΦΙΝΙΚΟΣ

Tetradrachms: ——

Octobols: ——

Tetrobols: ——

Triobols: *SNGCop* 500

### ΚΛΕΩΝ

Tetradrachms: Babylon hd. (*IGCH* 1774)

Octobols: ——

Tetrobols: ——

Triobols: ——

The distribution of denominations among these men may be summarized thus:<sup>21</sup>

	<i>tetradrachms</i>	<i>octobols</i>	<i>tetrobols</i>	<i>triobols</i>
Phanias	5	5	8	7
Damasias	2	3	0	1
Hagnon	2	2	1	2
Philippos	3	1	1	0
Epiteles	1	1	0	0
Charidamos	2	1	0	0
Amphinikos	0	0	0	1
Kleon	1	0	0	0
	—	—	—	—
	16	13	10	11

<sup>21</sup> It should be noted that this record gives all four denominations only to Phanias and Hagnon. However, Wallace had found three magistrates represented by all four (*Phoenix*, p. 21, n. 3). He does not specify which three names. The third was in all probability either Philippos or Damasias. On the other hand, Wallace knew of only nine triobols (*Phoenix*, p. 21, n. 2); whereas our record shows 11 specimens of this denomination.

In Wallace's attempt to arrive at an identification of these minting officials, he discovered inscriptional and archaeological evidence of the late third and second centuries B.C. that several of these names may be related to citizens of wealth and prominence.<sup>22</sup>

## CONCLUSION

The term "stephanophorus" has come to be applied to all tetradrachms of thin, spread flan, with the head of a deity on the obverse and with reverse type encircled by a wreath. It has been thought that these issues from various mints<sup>23</sup> first appeared at different places and at different times within the first half of the second century, for specific reasons many of which have eluded us. Included in these doubts was when the Euboean series actually began. For the latter there is one important terminus in the Babylon hoard (*IGCH* 1774). The three Eretrian tetradrachms in it were obviously struck before its burial date of 155–150 B.C. Another terminus is provided by the Anthedon hoard (burial date, 191 B.C. or 161 B.C., depending on the chronology of Thompson or Lewis, for which see notes 25 and 26). From Anthedon, together with the first four issues of Athenian New Style "owls," were at least four tetradrachms and one octobol of Chalcis and six tetradrachms and four octobols of Eretria.<sup>24</sup> The logical conclusion, drawn by Thompson, is that both Athens and Euboea started their "New Style" spread flan coinages with reverse encircled by a wreath at approximately the same time. However, anyone conversant with the problem will know that there are two schools of thought about the beginning of the Athenian New Style. One supports Thompson's beginning date of 196,<sup>25</sup> the

<sup>22</sup> Wallace says that "In every case the magistrate and the citizen are the only known contemporaries of the name" (*Phœnix*, p. 26). In particular, a certain Phanias was accorded special honors as a priest in the temple of Isis at Eretria. The other three names which appear to be associated with public service and benefactions are Hagnon, Amphinikos and Charidamos. Wallace (*Phœnix*, p. 21, n. 1) supports the early second century date for the beginning of this coinage.

<sup>23</sup> These include some twenty odd. See L. Robert (above, n. 17), p. 35, n. 7.

<sup>24</sup> See above, notes 16 and 18.

<sup>25</sup> See her publication in n. 16, above; *The New Style Coinage of Athens*, ANSNS 10 (1961), pp. 107-8; "Athens Again," NC 1962, pp. 301–33.

other, D. M. Lewis's date of 164.<sup>26</sup> To summarize the main developments to date, Christof Boehringer<sup>27</sup> would put out the wreathed issues all at the same time as the result of a stephanophoric union geared to trade with Delos, involving some 20 cities, soon after Rome gave Delos to Athens in 166. Louis Robert<sup>28</sup> argues that the use of the wreath, once it was introduced into fashion, must have been an option which mints were free to exercise or not; that the term "stephanophorus," as applied in ancient inscriptions and inventories, referred only to Athenian tetradrachms and drachms; that it did not include similar coins from non-Athenian mints as part of a vast stephanophoric union, as Boehringer suggests; and that the ancient reference to Athenian New Style coins should not be confused with modern usage as a term of convenience to embrace similar wreathed issues from elsewhere. In a book largely devoted to these wreathed issues, Adalberto Giovannini ingeniously unfolds their purpose and the chronology of their appearance.<sup>29</sup> One can only paraphrase his findings here which are based on hoard evidence and epigraphical and literary remains.

The old coinages, such as the Athens glaukophori, the Lysimachi and the Alexanders, disappear abruptly and are immediately replaced by the stephanophori. This indicates that the old coins were suddenly withdrawn and melted down to make way for the new. The wreathed issues (and these include Athens New Style, Macedonian Republic, Euboea and Asia Minor) were put out at the express command of Rome at the end of the Third Macedonian War in 168, in a final overt effort to stamp out once and for all any vestige of the Macedonian monarchy and all that went with it, including the coinages.

Conspicuously absent from Giovannini's arguments is any reference to the many more or less contemporaneous *unwreathed* tetradrachm

<sup>26</sup> D. M. Lewis, "The Chronology of the Athenian New Style Coinage," *NC* 1962, pp. 275–300.

<sup>27</sup> See above, n. 17, p. 38.

<sup>28</sup> See above, n. 17, pp. 34–45.

<sup>29</sup> A. Giovannini, *Rome et la circulation monétaire en Grèce au II<sup>e</sup> siècle avant Jésus-Christ*, Schweizerische Beiträge zur Altertumswissenschaft 15 (Basel, 1978). See, for example, pp. 19–20, n. 57; 21, 61–63, 72–73, 81, 94–95. Giovannini agrees with Boehringer's chronology, but not with the theory he advances for the purpose of these issues.

mints. These include, as L. Robert has stated,<sup>30</sup> Miletus, Ilium, Alexandria Troas, Parium and Lampsacus. To these may be added Cos, Antioch-Alabanda, Pergamum and Cnidus.<sup>31</sup> How is it that these cities escaped Rome's injunction, or were these particular mints striking only before 168? If so, why were they not striking "stephanophori" after 168, or why were the "stephanophoric" mints not striking unwreathed issues before 168? This seems to be a chronological and geographical division of activity between mints not immediately comprehensible to this writer.<sup>32</sup> The coins with Zeus/Artemis, which both Boehringer and Giovannini take to be the taurophori, are not wreathed; and they could not have been struck until after 167 (n. 17, above). And all of the mints mentioned in this paragraph struck to the Attic standard.<sup>33</sup>

<sup>30</sup> See above, n. 17, pp. 39–40.

<sup>31</sup> The Cnidus tetradrachm, a *unicum*, was published by Georges Le Rider, "Un tétradrachme hellénistique de Cnide," *Essays Thompson*, pp. 155–57. One of two known tetradrachms of Athena Nikephorus, both from the Sitichoro Hoard (*IGCH* 237), was published earlier by Le Rider, "Un tétradrachme d'Athéna Nikephoros," *RN* 1973, pp. 66–79.

<sup>32</sup> Alexandria Troas struck dated coins during the period in question. The era is assumed to have started with the date of its foundation by Lysimachus in 300, although 312, the beginning of the Seleucid era, had been suggested. See A. R. Bellinger, *Troy. The Coins, Suppl. Monograph 2* (Princeton University Press, 1961), pp. 93–94, n. 18; 95; L. Robert, *Monnaies antiques en Troade*, Hautes études numismatiques 1 (Geneva/Paris, 1966), p. 59, n. 1; C. Boehringer (n. 17, above), p. 40, n. 1. The earliest issue recorded by Bellinger was, according to the era of the city's foundation, 164; the latest was dated 135. If reckoned by the Seleucid era, these issues would run from 176 to 147, a not unlikely chronology, if Rome had not imposed a monetary regime in 168; whereas if she had intended to eradicate all visual memories of the Macedonian dynasty, or that of the Seleucids, for that matter, it is not so easy to explain her permission for either of these era dates to appear on Alexandria's coinage.

<sup>33</sup> With direct bearing on the Euboean issues published in the present article, Giovannini observes (above, n. 29, p. 42, n. 74) that while the tetradrachms of Eretria and Chalcis are wreathed, the octobols are not; the reason being that the latter were, in fact, drachms struck not on the Attic, but rather on the "Corcyran" standard, and were not designed to circulate as stephanophori. The Carystus drachms, on the other hand, are drachms. They were struck on the Attic standard and must be considered stephanophori. No mention is made of the unwreathed Eretrian tetrobols and triobols. One notes that, by way of contrast, Cyzicus at about this time struck tetradrachms (*BMC Mysia*, p. 38, no. 146), didrachms (*SNG Berry* 947–49), drachms

At this writing, it would seem more judicious to await reaction to Giovannini's thesis from the scholarly numismatic world in general and the publication of O. Picard's study of the mint of Chalcis in particular. Meanwhile, we are at liberty still to choose either 196 or 167–4 for the beginning of the Euboean tetradrachms and fractions.

#### ADDENDUM

This article went to press before the welcome appearance of Olivier Picard's *Chalcis et la Confédération Eubéenne Étude de Numismatique et d'Histoire (IV<sup>e</sup>-I<sup>er</sup> Siècle)*, Bibliothèque des écoles françaises et de Rome, fasc. 234 (Paris, 1979). The octobols of Chalcis listed in this article fall into Picard's second series of Chalcidian coinage, during the first half of the second century B.C., along with wreathed tetradrachms, smaller silver fractions, and bronzes. In his catalogue, the relevant octobols are his nos. 57–65, pp. 94–100. Wallace and Newell specimens are cited under nos. 59, 60, and 64. These issues are discussed in the commentary on hoard evidence and absolute chronology, pp. 181–202, where discussion of the silver coins is confined to pp. 198–202.

Similarities in style indicate that the silver and bronze issues were struck contemporaneously. Relying on an analysis of the dies and hoard evidence, which consists almost entirely of bronze deposits, Picard maintains that the Chalcidian emissions of the second series began only in 180 or 170 B.C. Taking into consideration the pros and cons of both the early and the late chronology for the beginning of wreathed issues at Athens and in Euboea, including Boehringer's recent theory, Picard nevertheless concludes that this series began around 170. He finds an explanation for the "quasi-simultaneous" appearance of various wreathed issues, including those of certain Ionian cities, in the Third Macedonian War, but not as the result of its outcome as late as 168. In the case of the Euboean coinages, in particular (see p. 302), he attributes a change in monetary policy between 175 and 170 to the disappearance of the

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(SNG Berry 950), and hemidrachms (SNG Berry 951), and all denominations are wreathed. The reader is left without a full explanation for this disparate practice, particularly at neighboring Euboean mints.

Koinon organized by Flamininus, and the reassertion of Euboean cities' (Eretria and Chalcis) financial independence.

Now also, Nicholas F. Jones questions Boehringer's theory in his study of "The Autonomous Wreathed Tetradrachms of Magnesia-on-Maeander," *ANSMN* 24 (1979), pp. 63–109, particularly pp. 93–100. Although he confines these issues between 155 and 145, he offers cogent possibilities why various cities began their related coinages at different times, some earlier than 169, depending on the political and economic demands of the moment.

With regard to the earliest Euboean League coinages (our notes 11 and 12), Picard, in chapter 2, convincingly advances the argument that Chalcis, not Eretria, was the minting city; and he would lower Wallace's dates by almost 50 years (375–357 B.C. for the Aeginetan didrachms, and 357–338 for coins of Attic weight: Picard's chapter 4).



## NEWELL'S MANUSCRIPT OF THE KUFT HOARD (PLATE 3)

ORESTES H. ZERVOS

Among E. T. Newell's papers kept at the American Numismatic Society, there is a detailed account of an early Ptolemaic hoard said to derive from Kuft, a town in Upper Egypt. The account consists of several parts composed at different times and includes an inventory as well as sets of related notes. Here are enclosed all the facts Newell had gathered about the coins and certain conclusions he had reached, but as nothing ever materialized by way of publication, most of the accumulated material remained for a long time unknown and out of reach.

In 1974 D. Nash published Newell's main inventory with numerous additions of her own, thereby making available for study this important document.<sup>1</sup> A comparison of the ANS manuscript with Nash's article shows, however, basic differences of opinion as to the composition of the find—Newell maintaining that it contained exclusively countermarked pieces, and Nash, that it was an indifferent mixture of marked and unmarked coins. As Nash's version drastically affects both the complexion and composition of Kuft, and because it seems to spring largely from Nash's having had no recourse to the subsidiary notes in New York, I should like to consider here some aspects of Newell's entire manuscript<sup>2</sup> and to comment on the divergence of views.

Newell's combined record contains just over 300 tetradrachms, most of the usual Alexander variety, and a lesser number with the distinctive satrapal types of Ptolemy I. The coins come from various sources but, for convenience, I shall divide them into groups to be discussed separately.

<sup>1</sup> D. Nash, "The Kuft Hoard of Alexander III Tetradrachms," *NC* 1974, pp. 14–30, (hereafter Nash).

<sup>2</sup> Made available to me for study through the courtesy of the ANS.

## A. THE DAVIDSON COINS

This is the largest of Newell's groups, consisting of some 190 tetradrachms, and also the only one for which there is any direct evidence of a connection with Kuft. To it Nash has added many other pieces from the same collection (well over 100),<sup>3</sup> in the belief that they too came from the hoard. Her stated reasons are, I think, certain inconclusive observations about similarity of patina, and still others about countermarks and mint-adjuncts.<sup>4</sup> Less obvious reasons seem to be her acceptance of faulty published accounts, never set straight, and, possibly, misinterpretation of other facts otherwise correct.<sup>5</sup> However, if one uses as a foundation Newell's complete manuscript and reads it correctly, one is bound to come up with different results.

We must therefore go to the source. As far as is known, Davidson himself left no written facts about Kuft, nor did Grose in his studies of the Davidson coins.<sup>6</sup> Thus the only available record of Davidson's views is contained in the New York manuscript. Newell gives the basic facts

<sup>3</sup> Most of these are now published in *SNG AshMacedonia* with an introductory note by Nash.

<sup>4</sup> Nash, pp. 15–16.

<sup>5</sup> Some years ago, G. K. Jenkins ("An Early Ptolemaic Hoard from Phacus," ANSMN 9 [1960], pp. 29–30, n. 4) published a summary list of what he took to be the Kuft holdings at Oxford (261 pieces) as well as some other information about the hoard, without bringing up the matter of countermarks at all and apparently without in any way distinguishing between marked and unmarked coins. More recently, in 1973, came the item on Kuft in the *IGCH* (no. 1670) where the same lack of distinction persists. Nash was not of course responsible for those oversights, but then there is the accession entry for 1881 of the British Museum recording the receipt of just under 60 coins and describing them as "Lot Collected in Egypt" which she wrongly took to mean "coins . . . from Kuft" (Nash, p. 16, item 1c). These were Davidson coins but from the lot that did not come from Kuft. Finally, there are some published statements by Newell himself (*Alexander Hoards II Demanhur, 1905*, ANSNNM 19 [1923], p. 162, n. 59, and *Tyrus Rediviva* [New York, 1923], p. 10) and Noe's own brief entry (*A Bibliography of Greek Coin Hoards*, 2nd. ed., ANSNNM 78 [1937], no. 582), none of which describe the appearance of the coins and which, by their mere brevity, could have misled anyone. Accounts such as these were Nash's precedents.

<sup>6</sup> Nash, p. 14. Also see S. W. Grose, "The Balliol College Collection," NC 1920, pp. 117–21.

about Kuft in a terse statement prefacing his hoard list<sup>7</sup> in which he says that the entries of the Davidson pieces are based on information provided by the owner, and in a passage entered elsewhere in which he elaborates.

In the collection of the late Dr. Strachan Davidson, Master of Balliol College, Oxford, there is preserved a most interesting series of Alexandrine and Ptolemaic tetradrachms. They are made remarkable by the the extraordinary number of punch-marks, countermarks, test cuts and stabs with which their surfaces are covered. Dr. Davidson himself kindly informed the writer some years ago (during a visit to Oxford in the early Spring of 1914) that he purchased these coins in Egypt during his visit to that country about 1880. He further states that they had all come from a single hoard supposed to have been found near Kuft, an important provincial city between Keneh and Luxor in Upper Egypt. More than this, either as to the number actually found, the exact year in which they were found or any circumstances attending the discovery, are totally unknown. One hundred and fifty-five specimens were in Dr. Davidson's collection and these are now in the Ashmolean Museum, Oxford. In addition, on the second of January 1881 Dr. Davidson presented 34 [sic for 35] additional specimens to the British Museum, where they now are.

Newell does not specifically state here that all Davidson coins from the hoard were countermarked, but clearly implies it, and in another set of notes he says: "The coins themselves are remarkable as being without exception countermarked. . . , this is the distinguishing feature of the coins in the Kuft hoard." But Newell gives specific figures, and if there are remaining doubts about the markings, one might take the time to check the 190 pieces mentioned by him in the quotation against those in the hoard inventory where each coin is entered separately and identified by disposition and *countermarks*. This proves beyond doubt that *all Kuft tetradrachms in Davidson's lot were countermarked*. The unmarked

<sup>7</sup> Quoted by Nash, p. 14.

coins that Nash adds to her list must come therefore from lots which Davidson acquired from other sources.

Newell has some cogent remarks about countermarked coins in Egypt, which are also worth quoting.

It is only in Egypt that Alexander coins are found so consistently punchmarked. But even here it is very seldom that they occur provided with more than one, or at most two, of such punchmarks. In the Demanhur Hoard the writer knows of but ten punchmarked Alexanders and in every case each coin bore but one such mark. In the Mansura find [*IGCH* 1667: Abu Hommos] he saw but three cases, also with one punch each. (In hoards found outside of Egypt punchmarked specimens are exceedingly rare.) None of the specimens in Dutilh's hoards [*IGCH* 1665 and 1669] or the Abukir Hoard (now in Berlin) appear to have possessed punch marks .... The possession of numerous punchmarks points, in the writer's experience, to coins actually found south of the Egyptian Delta. As stated before, none of the Alexander hoards (Demanhur, Mansura, Abukir, Dutilh I and II) unearthed in the Delta itself contained many punchmarked Alexanders. The same is true of several later Ptolemaic hoards (buried in the reigns of Ptolemy I or II) seen by the writer. On the other hand, in the course of several trips up the Nile he was repeatedly able to purchase Ptolemaic tetradrachms (Ptolemy I or II) covered with punchmarks, at Asiut, Luxor and Aswan, all apparently found in Upper Egypt. This would seem to point to the fact that early coins circulating in these districts were usually punchmarked, probably by local bankers, merchants or money changers, and that this was not as frequently the case in the Delta and the adjacent districts.

These observations are in agreement with what one would expect for a country which had traditionally mistrusted coined money and in which during the early Hellenistic period coin circulation was virtually confined to a specific region, that of the Delta. They also properly stress the hoard's southern origin and thus provide a plausible explanation for the profusion of countermarks on the coins from Kuft.<sup>8</sup>

<sup>8</sup> Nash does not take into account these important facts. See n. 5, above.

## B. THE CHESTER AND OTHER COINS

To the Davidson coins, Newell added another 84 pieces from smaller collections as follows: 40 in the British Museum (portions of the Chester lots of 1875, 1876, 1879 and 1880), 20 in the Munich Cabinet, 6 in his own trays, and 18 from other minor lots. While none of these coins could be traced directly to the Kuft hoard, Newell entered them in his inventory for reasons explained in the manuscript. Beginning with the Chester pieces, he writes:

These coins have exactly the same appearance and bear the same punchmarks as the coins of Dr. Davidson. This fact and the dates of their entry into the BM collection clearly prove that they had all come from one and the same hoard. In fact, the features which so strikingly characterize the specimens which we *know* came from the Kuft find will enable us, with due care and reservation, to trace the origin of a few additional specimens, now in the Munich Cabinet and in the writer's collection, to the same find. These particular specimens were in the first case added to the Munich Cabinet during the closing quarter of the 19th century, and in the second case have all come from old collections formed during the same period. In every instance they bear counterstamps from the *same* punches as had been used for the coins from Davidson and Chester now in the British and Ashmolean Museums .... Therefore we would seem to be amply justified in tracing to the Kuft Hoard such Alexander and *early* Ptolemaic tetradrachms (with reverse type Athena Promachos) as on the one hand are liberally supplied with the particular punchmarks appearing on coins *known* to have come from the Kuft Hoard and on the other hand which were purchased by their former owners in the seventies and eighties of the last century. The additional Alexanders are few in number (some 15 [18!] specimens) and in every instance but two are merely duplicates of specimens in Davidson's collection. In the remaining two instances the coins do not in any way

change the dating or information supplied by the specimens known to have come from the find.<sup>9</sup>

Newell's criteria seem fair and judicious. But in the absence of more explicit outside evidence on provenance, one might ask whether they were not so rigorous as to lead Newell into excluding *plain* pieces in the same lots (particularly the Chester lots) which may have also come from the hoard. An inspection of the coins known to derive from Kuft shows that the majority of them have several punches—about 70 percent have from 2 to 5 punches, and about 6 percent, from 6 to 10 punches—but also that a considerable number, the remaining 24 percent, are marked singly. This being so, one might suppose that some coins originally in Kuft escaped marking altogether. But on the basis of the total absence of uncountermarked coins in the large Davidson group, it seems likely that if such unmarked coins ever existed, their number among the smaller lots would have been negligible.

#### D. COINS LEFT OUT

It is certain that Newell left his inventory of Kuft in a somewhat incomplete state. This becomes apparent from the Chester collection, the largest hoard lot after Davidson's, which is totally unrepresented in the final Ptolemaic section of the list; there are other less obvious lacunae as well. Fortunately, Newell's preliminary notes survive and with their help we can fill in the gaps. The omitted lots are as follows.

(1) Eleven Chester pieces in the British Museum, all with the satrapal types of Ptolemy I, acquired (like the others from that collection) between 1875 and 1880. While Newell enters these in the same list as he does other unrelated, mainly uncountermarked, tetradrachms in the British Museum and does not explicitly state anything about their origins, his marginal comments<sup>10</sup> clearly show that the purpose of that

<sup>9</sup> For punches on the Davidson coins at Oxford, see Plate 3, 2, 3, 5–7, and *SNG Ash Macedonia*.

<sup>10</sup> They include such statements as, "Doubt if this was in the find—worn—certainly not" (for *BMC Ptolemies*, p. 5, no. 42), "No stamps—not in the find—poor" (for *BMC Ptolemies*, p. 6, no. 54), or "Not in Kuft hoard—very different in appearance" (for J. Svoronos, *Ta nomismata tou kratous ton Ptolemaion*, part 2 [catalogue] [Athens, 1904], no. 29), and so on.

record was to separate, on the basis of countermarks, circulation, wear, etc., those coins which came from Kuft from those that did not. His wording and also the fact that the countermarked pieces fit in the earlier noted gap of the Egyptian section make it certain that all of these Chester coins were meant for inclusion in the inventory but were somehow left out *en bloc*. Exceptionally, Newell describes one piece (*BMC Ptolemies*, p. 4, no. 29: Chester 1876) as having "no stamps," though it actually has a punch; this coin I am *tentatively* including along with the rest. M. Price of the British Museum has kindly informed me that this piece as well as the others "could be from Kuft."

(2) One piece from the Willert Collection (1876) in the British Museum, listed together with the tetradrachms described in the previous entry.

(3) One piece from the Balliol Collection about which Newell writes, "Oxford (Davidson) Find." This is a Ptolemy I coin and must be one of the four entered by Nash (p. 25) in *column A*, entry S 139, in her list; it has a nick on the obverse and a four-lobed punch on its reverse.

(4) Six pieces about which Newell writes, "Alexander coins in Col. [Allotte] de la Fuye's Coll. from Kuft hoard .... These specimens Col. de Fuye stated he had purchased in a lot *many* years ago from an Egyptian find." As usual, all specimens are listed with their identifying countermarks, but I have been unable to trace either their present disposition or a published reference to any of them.

(5) Twelve pieces from Newell's own collection, stated as coming from Kuft, eleven of which can still be identified in the trays of the ANS (Plate 3, 1).

Though not mentioned anywhere in Newell's notes, the following tetradrachm may also be *tentatively* added.

(6) One piece from the Holzer collection also in New York (Plate 3, 4). This coin has nine countermarks on its obverse and a single one on the other side, all similar or identical to those found on other specimens from Kuft.<sup>11</sup>

This makes a total of 32 countermarked pieces which, arranged by mint, are given in the summary catalogue below.

<sup>11</sup> Compare for example, with countermarks on Davidson coins in Plate 3, 3 ("amphora" stamped on the rev.) and *SNG AshMacedonia* 2887 ("rosette" on the obv.: Tarsus).

## Supplement to Newell's List of Kuft

<i>Mint</i>	<i>Variety<sup>a</sup></i>	<i>No.</i>	<i>Reference<sup>b</sup></i>	<i>Disposition</i>
Amphipolis	PROW IVY LEAF	1 2	D 1 D 266	ANS Newell (not ANS)
	CORNUCOPIAE ΒΑΣΙΛΕΩΣ	3	D 1043	ANS
	PALLADION ΒΑΣΙΛΕΩΣ	4	D 1100	Fuÿe
	ANTLER ΒΑΣΙΛΕΩΣ	5	D 1210	ANS
	DOLPHIN ♂	6	P (M542)	ANS
	*BRANCH (forked) ♂	7	P (M560) var.	ANS
Sardes	TORCH TI	8	P (M90)	ANS
Side	ΦΙ ΛΣ ΒΑΣΙΛΕΩΣ	9	D 1969	ANS
Tarsus	¶ ⊙ ΒΑΣΙΛΕΩΣ	10	D 2338	Fuÿe
Salamis	BOW (large)	11	D 2489	ANS (Holzer)
Amathus	*PROW O (bet. feet)	12	M —	ANS
Ake	Year 25	13	D 3954	Fuÿe
Babylon	*CADUCEUS (ex.) ♀ M	14	D 4300	ANS
	*M ♀	15	D 4331	ANS
	M ΛΥ ΦΙΛΙΠΠΟΥ	16-17	D 4526	Fuÿe
Alexandria	ROSE Διο <i>Alex., eleph. scalp</i>	18	D 4614	Fuÿe
	FULMEN PY	19	P (S20)	BMC 5
	FULMEN ¶	20-21	P (S22)	BMC 2, 3
	*FULMEN AY	22	S 23	BMC 4 (Willert)
	<i>Striding Palladian</i>			
	*ΔΙ	23-25	P (S33)	BMC 8, 9, 12
	EY	26	P (S42)	BMC 11
	*¶	27	P (S37)	BMC 10
	*HELMET ¶	28	S 168	BMC 27
	*HELMET ¶	29	S 170	BMC 29
	¶ ¶	30-31	S 139	BMC 47 (Oxford)
Uncertain	¶	32	M —	ANS

The majority of the tetradrachm varieties in the above table also appear in Newell's main inventory, but nine of them, marked with an asterisk, are new. The most important among the last are the late Alexandrian varieties, nos. 28 and 29, which belong to the series with Helmet struck from about 312–310 to 305.<sup>12</sup> This series is completely absent from Newell's other list. However, neither the varieties with Helmet nor the others alter the basic chronology of Kuft.

#### D. RECONSTRUCTION OF THE INVENTORY

With the addition of the 32 coins, the total number of countermarked pieces traceable to Kuft through Newell's notes rises to about 306 which is the full record as it can be known for the present. It is not necessary to print here the entire list, as the main part of it, that completed by Newell himself, is given in *column K* of Nash's inventory;<sup>13</sup> but the 32 new coins must now be interpolated into the latter. On the other hand, Nash's *columns A* and *B* should be removed altogether,<sup>14</sup> and from *column K* itself the following extraneous pieces must also be taken away.

<sup>12</sup> For the chronology and classification of these late coins, see my recent "Delta Hoard of Ptolemaic Alexanders, 1896," *ANSMN* 21 (1976), pp. 37–58.

<sup>13</sup> Nash, pp. 17–25.

<sup>14</sup> Three specimens in *column B*—SNG Ash *Macedonia* 2557, 2587 (Amphipolis) and 3064 (Babylon)—may be from Kuft, as they all bear characteristic countermarks. These are Davidson coins at Oxford, and Newell may have overlooked them.

- 
- Coins not in Newell's main inventory are indicated \*.
  - D — E. T. Newell, *Alexander Hoards II, Demanhur*, 1905, ANSNNM 19 (1923)
  - M — L. Müller, *Numismatique d'Alexandre le Grand* (Copenhagen, 1855).
  - P — G. K. Jenkins, "An Early Ptolemaic Hoard from Phacous," *ANSMN* 9 (1960), pp. 17–37, especially 18–26 (Phacous list).
  - S — J. Svoronos, *Ta nomismata tou kralous ton Ptolemaion*, part 2 (catalogue), (Athens, 1904).

(1) Two Amphipolis coins apparently entered twice. They are varieties with Amphora (D 162) and Rose (D 520), Nash, page 17. After their deletion, the inventory should read: Davidson 1 sp., and BM (Davidson) 1 sp., respectively.

(2) Twenty-five Davidson coins in London from the group earlier referred to as "Lot collected in Egypt." Nash identifies these collectively as "BM" and individually as D 243, 1689, 1925, 1944, 2327, 2370, 2544, 4117, 4526, 4601, 4606, 4609 var.; M 108, 114, 120, 125, 712, 1313, 1467, 1596, and M— (two varieties, pp. 18, 24); and N 43. All of them should be deleted.

As further corrections of Nash's list, one should also take note of a few inadvertencies in transcriptions.

(1) An Amphipolis coin in London marked with Corn Ear (D 1541), Nash, page 18, should be accompanied by Φ. Incidentally, Nash's comments on the same page (note 6) and on page 15 (top) about Newell's two "partial entries" are redundant. These are duplicate entries which Newell forgot to cross out, not omissions or incomplete entries as implied.

(2) Of the last seven varieties for Sardes (D 1925 to SNG 2860; Nash, p. 19), those coming from Kuft, and also SNG 3201 for Pamphylia (p. 20), should all be placed *together* (SNG Ash Macedonia 2860 and 3201 are die linked!), probably under the latter mint.

(3) The Tarsus coin in Munich described as Nike with Caduceus and Α (Nash, p. 19, bottom) is, according to Newell, a totally different variety, one simply marked Α (no symbols). It should go to Marathus.

(4) The two Sidonian entries for N 39 (Nash, p. 22) must be given their yearly serial N.

(5) The Ptolemaic variety entered as Π and ♦ (Nash, p. 25) should be supplied a third monogram, Α, and thus be made identical to the one immediately above it (S 146).

With these corrections and with the addition of the extra 32 coins, Nash's inventory now conforms to Newell's specifications. The hoard statistics according to this version are summarized in the following table.

SUMMARY TABLE  
The Kuft Hoard after Newell

*A: Coins before 318 B.C.*

*B: Coins after 318 B.C.*

<i>Mint</i>	<i>A</i>	<i>B</i>	<i>Mint</i>	<i>A</i>	<i>B</i>
Amphipolis	45	8	Myriandrus	4	1
Pella	6	3	Aradus	14	—
Sicyon (Macedonia)	1	—	Marathus	—	3
Lampsacus	1	—	Byblus	4	—
Abydus (Sestus?)	1	—	Berytus	1	—
Sardes	—	7	Sidon	8	1
Miletus	10	—	Ake	8	8
Pamphylia (Side?)	12	—	Damascus	6	—
Tarsus	25	—	Babylon	39	15
Paphus	1	—	Susa	—	2
Amathus	3	—	Alexandria	26	24
Citium	5	—	Uncertain	—	10
Salamis	4	—			
			Total (306)	224	82

The division of the mint totals into columns *A* and *B*, above, is made on the basis of whether a certain variety in Kuft is or is not present in the Demanhur hoard, buried about 318, and allows one to form an idea of the life spans of the various Alexander mints. Nash and Jenkins give similar charts<sup>15</sup> but their figures are different. The statistics assembled here should provide a more accurate picture.

#### E. FORMATION OF THE HOARD

A remarkable aspect of the Kuft coins is that they fall into two chronologically staggered groups. One of them consists of the locally minted Egyptian issues and runs continuously down to just before 305 B.C. where the series stops. The latest coins here are two emissions of the

<sup>15</sup> Nash, p. 26; Jenkins (above, n. 5), p. 30.

Athena Promachus type, listed in Nash as S 141 (Plate 3, 7) and S 139, (Ashmolean, 2 pieces), whose date can be judged from their advanced style.<sup>16</sup> The other group, comprising all the Alexanders of foreign mintage, falls considerably short of the first and apparently goes no further than 310 or thereabouts. The latest accurately dated issue in it is one from Ake of year 37 (311/310). Newell, who noticed this strange phenomenon long ago, suggested as an explanation that, perhaps, no coins from outside Egypt were allowed to enter after that date.<sup>17</sup> This now stands disproven by the recently discovered Phacous hoard (jar 1)<sup>18</sup> which, as is known, contains foreign issues dating all the way down to 305. Nash has another theory. She attributes the discrepancy to a "time lag" of half a dozen years which, in her opinion, routinely affected all coins coming into Egypt. This also seems to me improbable, as there is no obvious reason for such a long delay, nor is there any concrete evidence for it.<sup>19</sup>

The best explanation for the time gap in Kuft is, possibly, that it was connected in some way with the drastic fiscal measures imposed by Ptolemy I about 312–310. At this time, Ptolemy reduced the weight of his tetradrachm (Athena Promachus series) from the regular 17.2 g to about 15.7 g. As a parallel measure, he discontinued issuing gold and, very likely, temporarily demonetized domestic and foreign gold altogether (about 310 to 305).<sup>20</sup> It is not immediately clear just how such measures would have affected the hoard's composition but the coincidence of events may be significant. Furthermore, we know that other Egyptian hoards buried like Kuft *after* 312–310 also show strange dis-

<sup>16</sup> For the style of S 139, see my article (above, n. 12), pl. 8, 6, and discussion. Nash (p. 25) also includes two other pieces (S 117 and 127) from a later group dated about 305 to 301—but these are among the Davidson coins that she attributes to Kuft "solely by appearance" and they do not belong here.

<sup>17</sup> E. T. Newell, "The Egyptian Coinages of Ptolemy I," unpublished essay in the ANS, pp. 21–23. The Ake tetradrachm is N 42 in Nash (p. 21), and is also mentioned by Newell in *Tyrus Rediviva* (above, n. 5), p. 10.

<sup>18</sup> Jenkins (above, n. 5).

<sup>19</sup> My objections are presented in some detail in my article on the Delta Hoard (above, n. 12), pp. 51–52, n. 23.

<sup>20</sup> For a sketch on these measures, see Zervos (above, n. 12), pp. 52–55, and n. 24.

continuities,<sup>21</sup> though of a different kind, and that still others buried before that date, do not; so there is likely to be some connection. The hoard's southern location also may have had something to do with it. The matter will have to await further study of the monetary situation in Egypt before a satisfactory solution can be proposed. There remains another possibility—that Kuft was collected in two different containers, one sealed in 310 and the other in 305. This was, in fact, the case with the Phacous treasure which was deposited in two vases, each with coins of distinct composition and date. But we have no information on this.

In whatever way the Kuft hoard was assembled and for whatever reason its contents staggered, its collection came finally to an end just before 305. The hoard is apparently only slightly earlier than Phacus (jar 1), the latest Alexander find known from Egypt (305). In 305 or 304, Ptolemy I seems to have recalled permanently all tetradrachms of Attic weight, including his own, thereby turning Egypt into a monetarily closed district; from that time on, the familiar type of hoard with Alexander tetradrachms completely disappears. In this respect, the coins from Kuft, like those from Phacus, are the last reminders of a circulation pattern on the verge of its extinction.

In discussing the hoard's burial, I have proceeded somewhat independently from Newell, but my conclusions do not differ greatly from his. For the rest, I have tried merely to transcribe and combine the information which Newell had so meticulously collected, and to emphasize his correlation (I think correct) of the countermarks to the southerly location of the hoard, which is central to the understanding of Kuft. Newell's notes prove without any doubt that all of Davidson's coins were countermarked. It is of course possible that originally the hoard also contained some plain pieces; but this cannot be proven. We must be grateful to Newell for many things, but also for this—that through his methodical research he not only saved an important Ptolemaic hoard from total oblivion, but that he also recorded and transcribed it for us in a reliable and satisfactory way.

<sup>21</sup> For instance, the already noted deposit from Phacus (jar 1) and two others found in 1896 and 1912 recently published by this writer, the Delta Hoard (above, n. 12) and "A Ptolemaic Hoard of 'Athena' Tetradrachms at ANS," *ANSMN* 23 (1978), pp. 43–58.



## TARIK DARREH (KANGAVAR) HOARD

(PLATES 4-5)

ARTHUR HOUGHTON

During the summer of 1974 a group of fourth and third century B.C. gold coins was found in Iran, reportedly near Tarik Darreh, a small village in the western part of the country some 8 km. south of the town of Kangavar in Hamadan Province.<sup>1</sup> The hoard apparently numbered approximately 60 coins. Of these, some 25 were described as Alexandrine staters; two were said to have been staters of Cyrene and Carthage; one coin was described as having been an octodrachm of Ptolemy III of the ΘΕΟΝ ΑΔΕΛΦΩΝ type; and at least 34 were staters of Seleucid origin struck between the reigns of Seleucus I and II of Syria.

The best preserved and most extensively represented coins of the group were issued under Seleucus II in the east. No coins of a later date are known to have been found. It may therefore be presumed that the end of this king's reign marks the terminus ante quem for the hoard, whose burial may be placed at about 226/5 B.C.

By early 1975 much of the group had been dispersed in Iran, Europe and the United States. It has been possible, however, to record the major part of its Seleucid component, which in depth and breadth is the richest of any such single group of Seleucid coins yet discovered. The catalogue which follows has been classified by mint in a general west to east order, in accordance with the arrangement set forth by Edward T. Newell in *Western Seleucid Mints (WSM)* and *Eastern Seleucid Mints (ESM)*.

<sup>1</sup> Recorded in *Coin Hoards* 2 (1976), p. 23, no. 70.

## CATALOGUE

## AEGAE

*Antiochus II*

*Obv.:* Diademed head of Antiochus r.

*Rev.:* ΒΑΣΙΛΕΩΣ to r.; ANTIOXOY to l. Nude Apollo seated l. on omphalos, holding arrow in outstretched r. hand and resting l. on bow; in outer l. field, ΑΕ ; in outer r. field, traces of monogram; in exergue, goat's head r.

1. ↑ 8.57. WSM not.

## TARSUS

*Antiochus II*

*Obv.:* Head of Athena in Corinthian helmet r.

*Rev.:* ΒΑΣΙΛΕΩΣ to r.; ANTIOXOY to l. Nike standing l., holding wreath in outstretched r. hand and palm branch (?) with l. arm; to lower l., Ν ; to lower r., ΗΡ

2. ↑ 8.58. See WSM 1308 (stater with same l. field monogram); WSM 1311 (tetradrachm with same monograms).

## ANTIOCH

*Seleucus II*

*Obv.:* Head of Athena in Attic helmet r.; dotted border off flan.

*Rev.:* ΒΑΣΙΛΕΩΣ to r.; ΣΕΛΕΥΚΟΥ to l. Nude Apollo standing l., holding arrow in outstretched r. hand and leaning with l. on bow; in outer l. field, Θ above Δ

3. ↑ 8.53. See *WSM* 1009 (drachm with same dies).  
*Obv.*: Diademed head of Seleucus r.; dotted border.  
*Rev.*: Type and inscription as above; in outer l. field, Υ
4. ↑ 8.59. *WSM* 987 (same obverse die as a).
5. ↑ 8.57. *Obv.* no border. *Rev.* in outer l. field, ΛΡ; in outer r. field, ΡΕ. *WSM* 1010 (same dies as a-γ).

“APAMEIA”

*Seleucus II*

- Obv.*: Diademed head of Seleucus r.  
*Rev.*: ΒΑΣΙΛΕΩΣ to r.; ΣΕΛΕΥΚΟΥ to l. Nude Apollo standing l., holding arrow in outstretched r. hand and leaning with l. on bow; in outer l. field, Τ (?); in outer r. field, ΕΛ
6. ↑ 8.56. Same obverse die as 5. *WSM* not.
7. ↑ 8.51. *Rev.*: in outer l. field, ΕΛ; in outer r. field, Ω. *WSM* not.
8. ↑ 8.48. *Rev.*: in outer l. field, ΕΛ; in outer r. field, Ω. *WSM* not.

SELEUCEIA ON THE TIGRIS

*Seleucus I*

- Obv.*: Head of Athena in Corinthian helmet r.  
*Rev.*: ΒΑΣΙΛΕΩΣ partly off flan to r.; ΣΕΛΕΥΚΟΥ to l.; Nike standing l., holding wreath in outstretched r. hand and stylis (?) with l. arm; to lower l., Χ; to lower r., ΒΕ or ΒΕΛ
9. ↑ 8.54. *ESM* not.

*Antiochus II*

*Obv.*: Diademed head of Antiochus I r.

*Rev.*: ΒΑΣΙΛΕΩΣ to r.; ΑΝΤΙΟΧΟΥ to l. Nude Apollo seated l. on omphalos, holding arrow in outstretched r. hand and resting l. on bow; in outer l. field, ΔΡ ; dotted border.

10. ↑ 8.47.      *ESM* 187 (same obverse die).

## SUSA

*Antiochus I or II*

*Obv.*: Head of Athena in Corinthian helmet r.

*Rev.*: ΒΑΣΙΛΕΩΣ to l.; ΣΕΛΕΥΚΟΥ to r. Nike standing l., holding wreath in outstretched r. hand and stylis (or palm branch) with l. arm; to lower l., Λ ; to lower r., Ξ

11. ↓ 8.60.      See *ESM* 359 (tetradrachm with same monograms).

*Antiochus II*

*Obv.*: Type as above.

*Rev.*: ΒΑΣΙΛΕΩΣ to l.; ΑΝΤΙΟΧΟΥ to r. Type as above; to lower l., Λ ; to lower r., Δ

12. ↓ 8.52.      See *ESM* 361 (tetradrachm with same monograms).

*Seleucus II*

*Obv.*: Diademed head of Seleucus r.

*Rev.*: ΒΑΣΙΛΕΩΣ to r.; ΣΕΛΕΥΚΟΥ to l. Nude Apollo standing l., holding arrow in outstretched r. hand and leaning with l. on bow; in outer l. field, Λ ; in outer r. field, Δ

13. ↓ 8.57.      See *ESM* 365 (tetradrachm with same l. field monogram).

14. ↓ 8.54.      Same dies. Bank Leu 25, Apr. 1980, 181.

15. ← 8.53.      Same dies.

## ECBATANA

*Seleucus I*

*Obv.:* Head of Athena, r., in Corinthian helmet adorned with wreath.

*Rev.:* ΑΛΕΞΑΝΔΡΟΥ to r. Nike standing l., holding wreath in outstretched r. hand and stylis with l. arm; in l. field,  $\mathbb{C}$  above  $\mathfrak{L}$  above inverted anchor; to lower l., forepart of grazing horse l.; to lower r.,  $\Sigma\Omega$

16. ↓ 8.51. See *ESM* 480–83 (silver series with same symbol and monograms).

*Seleucus II*

*Obv.:* Diademed head of Seleucus r.; dotted border.

*Rev.:* ΒΑΣΙΛΕΩΣ to r.; ΣΕΛΕΥΚΟΥ to l. Nude Apollo seated l. on omphalos, holding three arrows in outstretched r. hand and resting l. on bow; to l. of Apollo's head,  $\mathfrak{L}$ ; beneath hand,  $\mathbb{M}$ ; to lower l., forepart of grazing horse l.; dotted border.

17. ↓ 8.58. *ESM* not.

18. ↓ 8.48. *Obv.* Border, if any, not visible. *Rev.* Apollo holds one arrow; to l. of head,  $\mathfrak{L}$ ; beneath hand,  $\mathbb{M}$ ; to lower l., forepart of grazing horse l.; dotted border. *ESM* not.

*Obv.:* Type as above.

*Rev.:* ΒΑΣΙΛΕΩΣ to r.; ΣΕΛΕΥΚΟΥ to l. Nude Apollo standing l., holding arrow in outstretched r. hand and leaning with l. on bow; to l. of Apollo's head  $\mathfrak{L}$ ; to l. of knees,  $\mathcal{O}\mathfrak{P}$ ; to lower l., forepart of grazing horse l.

19. ← 8.44. *ESM* not.

20. ↗ 8.52. Same dies as above.
21. 8.54. *Rev.* in inner l. field, ☩ above horse's head l.; in outer r. field, ☷. *ESM* not. See *ESM* 556 (tetradrachm with same monograms); *ESM* 761 and *WSM*, p. 229, no. 556A (stater and drachm with same obverse die). Bank Leu 13, 29 Apr. 1975, 296.
22. ← 8.47. Same dies. Numismatic Fine Arts 8, June 1980, 332 = Münzen und Medaillen FPL 417, Nov.–Dec. 1979, 14 = Münzen und Medaillen FPL 388, Apr. 1977, 3.
23. ↓ 8.52. Same dies. Bank Leu 18, 5 May 1977, 245.
24. ↗ 8.52. Same dies. Numismatic Fine Arts 5, 23–4 Feb. 1978, 195.
25. ↗ 8.51. Same dies.
26. ↑ 8.53. *Rev.* no monogram or symbol. *ESM* not.
27. ↑ 8.50. Same dies as above.
28. ↑ 8.53. *Obv.* same die as above. Münzen und Medaillen 54, 26 Oct. 1978, 356.

## BACTRA

*Antiochus II*

- Obv.:* Diademed head of Antiochus II r.; dotted border.  
*Rev.:* ΒΑΣΙΛΕΩΣ to r.; ANTIOXOY to l., Nude Apollo seated l. on omphalos, holding arrow in outstretched r. hand and resting l. on bow; in inner l. field, Δ
29. → 8.39. *ESM* 706 (same obverse die; same reverse die as *ESM* 704η).
- Obv.:* Diademed head of Antiochus I r.  
*Rev.:* Type and inscription as above; to l. of Apollo's head, star; beneath hand, ↑ ; to l. of legs, lyre.

30. ↓ 8.42. *ESM* 707. Bank Leu 25, Apr. 1980, 180.

*Obv.:* Diademed head of Antiochus II r.; dotted border.

*Rev.:* As above.

31. ↓ 8.58. *ESM* 709.

#### UNCERTAIN MINT

##### *Seleucus I or II*

*Obv.:* Head of Athena in Corinthian helmet r.

*Rev.:* ΒΑΣΙΛΕΩΣ to r.; ΣΕΛΕΥΚΟΥ to l. Nike standing l., holding wreath in outstretched r. hand; behind l. shoulder, palm branch; in l. field, beneath Nike's arm, NA.

32. ↑ 8.53. *ESM* not.

33. ↑ 8.38. Same dies. Bank Leu 25, Apr. 1980, 178.

##### *Seleucus II?*

*Obv.:* Head of Athena in Corinthian helmet r.

*Rev.:* ΑΛΕΞΑΝΔΡΟΥ to r. Nike standing l., holding wreath in outstretched r. hand and palm branch with l. arm; in l. field, ☩

34. ↑ 8.49 Numismatic Fine Arts 2, Mar. 1976, 119.

#### COMMENTARY

A number of the above coins are known issues of established Seleucid mints. Nevertheless, the hoard contained many new varieties which are worth specific note.

#### WESTERN MINTS

##### *Aegae*

Stater no. 1 falls within the small group of coins bearing a goat's head as city badge which Newell has assigned to Aegae (*WSM* 1511–16). Its

monogram AE [= A(IΓA)E?] ties it to WSM 1666, which shares a common reverse die with an unpublished tetradrachm clearly showing Aegae's goat's head as exergue symbol (Plate 4, A),<sup>2</sup> which therefore should also be assigned to this mint. The stater's portrait is a somewhat crude and indeterminate rendering of a youthful Antiochus II, not dissimilar to the recut head of the tetradrachm.

### *Tarsus*

Alexandrine staters in appearance similar to no. 2 were issued at Tarsus under Antiochus II (WSM 1305–6; 1308). A tetradrachm of Tarsus (WSM 1311) bears the same monograms.

### *Antioch*

The unique stater no. 3 was struck from dies that were later used on a drachm, WSM 1009a, unquestionably issued by Antioch. The single specimen known of this gold coin provides no indication as to how extensive an issue it may have been, although the flaw running through its upper monogram and which also appears on the drachm suggests a heavily used reverse die. The practice of using the same dies to strike in both gold and silver is unusual, but can be found among other Seleucid coinages.<sup>3</sup>

### *"Apameia"*

No. 6 raises a significant numismatic problem. It shares a common obverse die with WSM 1010, a stater of Antioch. Moreover, it is stylistically similar to other staters of Seleucus of unquestionably Antiochene

<sup>2</sup> ↑ 16.68. It was struck from the same obverse die as WSM 1514, apparently recut for a second time.

<sup>3</sup> For example, D. Cox, *ANSMN* 12 (1966), pp. 51–55, records an octodrachm of Seleucus III of Antioch struck from the same obverse die used for tetradrachms of that mint, and an octodrachm of the posthumous type of Antiochus I given by Newell to Apameia (see below) whose obverse was struck from a tetradrachm die; also WSM 556A, a drachm of Ecbatana struck from the same obverse as a stater; *ESM* 761 (see nos. 21–25 of this hoard); and M. Comstock and C. Vermeule, *Greek Coins 1950–1963* (Museum of Fine Arts, Boston, 1964), nos. 277–78, an octodrachm and tetradrachm of Demetrius I at Antioch which also share a common obverse die.

origin (*WSM* 995), as well as to certain contemporaneous tetradrachm issues of that mint (*WSM* 996 $\alpha$ - $\beta$ ; *WSM* 1011). Its reverse, however, carries the monogram ⠈ which Newell associated only with the mint at Apameia. The question of attribution thus posed demands a review of the material bearing on the fundamental issue of whether Apameia struck any coins with this distinguishing magistrate's mark.

The question was put at issue by Dorothy Waage, who has pointed out that the very high frequency of bronze coins of Seleucus II with the monogram ⠈ discovered at the Antioch excavations strongly suggests that they were struck at the Seleucid capital rather than at Apameia.<sup>4</sup> Waage derived support for the view that Antioch was the originating mint from the fact that other bronzes<sup>5</sup> carry both the monograms ⠈ and EY, the latter of which also occurs on bronze issues struck at Antioch under Seleucus.<sup>6</sup>

Waage has also noted that certain tetradrachms of Antioch and those with ⠈ (*WSM* 1061; 1196) have the letter I in common. Such identical single-letter monograms need not necessarily be seen as the signature of the same magistrate, but a recently published tetradrachm of Seleucus II from the Asie Mineure 1970 hoard<sup>7</sup> further strengthens the relationship between Seleucus' silver issues with ⠈ and those of Antioch. The coin's obverse was struck from the same die as *WSM* 988, a tetradrachm of Antioch, its reverse carries both ⠈ and Y, the latter of which appears consistently and virtually exclusively in the west on coinage of Antioch from the reign of Seleucus II through that of Antio-

<sup>4</sup> D. Waage, *Antioch-on-the-Orontes*, vol. 4, pt. 2: *Greek, Roman, Byzantine and Crusaders' Coins* (Princeton, 1952), p. 7.

<sup>5</sup> *WSM* 1159-61; 1164; 1168; 1171.

<sup>6</sup> *WSM* 1015; 1017-19; also on a gold stater, *SNGCopSyria* 109. G. le Rider and H. Seyrig, "Objets de la collection Louis De Clercq," *RN* 1967, pp. 15-16, have also expressed reservation about the attribution of the ⠈ issues, primarily on the basis of Waage's comments and A. R. Bellinger's remarks in connection with the Dura excavations, *The Excavations at Dura-Europos, Final Report 6: The Coins* (New Haven, 1949), nos. 41-42a, pp. 110-11.

<sup>7</sup> H. Seyrig, *Trésors du Levant anciens et nouveaux; Trésors monétaires Seleucides* 2 (Paris, 1973), pl. 5, 1.97.

chus III.<sup>8</sup> The obverse die of this coin and the monogram Υ point with considerable certainty to its issuance at Antioch, and therefore also to the probability that ☐ is the mark of an individual working at that mint and not at Apameia.

At this point Newell's methodology for arriving at an attribution to Apameia of the ☐ series must be reexamined. In essence it rests on the following sequential relationships: a) WSM 1135–39 and WSM 1141, tetradrachms of Antiochus, stylistically influenced by Antioch and not attributable to other nearby mints, may have been struck at Apameia; b) two other tetradrachm issues of the same king, WSM 1142–43, of improved style and with different monograms, appear to be of Syrian fabric and therefore seem to continue the "Apameia" coins of Antiochus (although the only coins of this group whose provenance is known appeared in a single hoard from western Turkey); c) the posthumous tetradrachms of Antiochus I with the inscription ΣΩΤΗΡΟΣ ΑΝΤΙΟΧΟΥ (WSM 1144) are of a style and fabric similar to the last issues of Antiochus II and are intimately related to a small bronze type of the same inscription which bears the monogram ☐ (WSM 1145); and, therefore, d) all the foregoing coins are from the same mint, Apameia, with which ☐ is associated.

The evidence favoring such an association is in fact tenuous. The starting point for Newell's assignment of the ☐ coinage to Apameia is the stylistic influence which the coinage of Antioch appeared to have had upon the engravers of the early issues of Antiochus II mentioned above. Such resemblance, however, is not necessarily an indication of mint proximity. Coins of Antiochus given to mints as distant as, for example, Smyrna (WSM 1499–1500) appear stylistically as close to

<sup>8</sup> The exceptions known to me are: O. Morkholm, "Some Seleucid Coins from the Mint of Sardes," *NN* 1969, p. 13, fig. 20, a tetradrachm of Seleucus III attributed to an unknown mint; N. Olcay and H. Seyrig, *I.e Trésor de Meklepin en Phrygie*, *Trésors monétaires Seleucides* 1 (Paris, 1965), p. 23, no. 636, pl. 2, 33, attributed—somewhat questionably—to Nisibus; and, possibly, the tetradrachm WSM 1088, also of Antiochus III, which Newell has assigned to Antioch, but about which he remarks on the Nisibine appearance of its portrait. In the east, Υ appears on a series of gold, silver and bronze coins struck at Susa under Antiochus III (*ESM* 397–400A; 403).

contemporary issues of Antioch as do WSM 1135–39 and 1141. Also, inspection reveals more differences than similarities between the latter issues and WSM 1142–43, which Newell believed to be but their continuation (WSM, p. 162). Finally, WSM 1142–43, which are generally distinguished by high relief and vigorous style, simply do not bear the close affinity to the ΣΩΤΗΡΟΣ ΑΝΤΙΟΧΟΥ tetradrachms which Newell saw.<sup>9</sup>

In sum, the structure of associations which led Newell to conclude that issues bearing ΕΔ were struck at Apameia is extremely weak. Moreover, enough evidence now exists to permit the tentative assignment of all coins of this series (including staters nos. 7 and 8 of this hoard) to Antioch instead. Where exactly they are to be fitted among the known issues of Antioch should be the subject of a longer study involving a closer examination of die and monogram relationships than can be given herein.

#### EASTERN MINTS

##### *Seleuceia on the Tigris*

The previously unpublished stater of Seleucus I, no. 9, is one of the earliest explicitly Seleucid coins of the hoard. Its monograms, Ξ and BE (or ΒΕΛ, part of the lettering being off the flan), relate it to a tetradrachm with similar magistrates' marks, WSM 1623. Newell expressed considerable uncertainty as to where this coin should be attributed: its monograms closely resemble those on certain tetradrachms of Seleuceia,<sup>10</sup> but its obverse style differs sharply from these and other issues of this mint. However, the context of the current hoard, which was found near Ecbatana and is heavily composed of eastern Seleucid types, tends to support a Seleuceia attribution for the stater, and therefore for WSM 1623.

<sup>9</sup> D. Cox (above, n. 3), pp. 53–54, has suggested that the ΣΩΤΗΡΟΣ ΑΝΤΙΧΟΥOY coins were struck during the reign of Seleucus III at Apameia; she adds, however, that they were the product of a die engraver whose work has otherwise been associated only with Antioch (WSM 1029–30).

<sup>10</sup> ESM 22, 25, and 27 in the case of Ξ; and ESM 14, which carries BE.

Newell has noted (*ESM*, p. 74) the absence of known gold issues at Seleuceia under Antiochus I and into the early part of the reign of Antiochus II, a span of at least 30 years, and has suggested that issues of the type of no. 10 marked the recommencement of such coinage following the secession of Bactria from the Seleucid empire some time after 255 B.C. While there is some indication of the expansion of gold coinage at other major mints in the east at about the same time (*WSM* p. 28, no. 541A; also, possibly no. 12 of this hoard), little evidence yet exists to show that the prolific output of Bactra was taken up by other eastern mints after Bactria's defection. If anything, the single obverse die shared by no. 10 with *ESM* 187 and with another unpublished stater (Plate 4, B)<sup>11</sup> tends to underscore the limited striking of this series at Seleuceia.

### *Susa*

It is not certain whether stater no. 11 should be assigned to Antiochus I or II. Newell suggests that *ESM* 359, a tetradrachm issue with the same monograms, might belong to the second Antiochus, but acknowledges that this tentative assignment is more or less arbitrary given the sparse material available for study. The state of wear of the hoard coin is inconclusive on the question. The object in Athena's hand is filleted, and could be a palm branch, although reverses of other Alexandrine staters struck at Susa during this period show a stylis instead.

The monogram Δ of no. 12 is clearly a variant of the Δ carried by *ESM* 362, a bronze issue of Susa bearing the portrait of Antiochus II. An example of a related Susian stater of the Alexandrine type probably also issued under the second Antiochus is illustrated on Plate 5, C.<sup>12</sup> It was struck from the same dies as *ESM* 353, assigned by Newell to Antiochus I, but its right field monogram Λ has been recut to the form Δ.

Given the provenance of the find and the use of the monogram Ε, which appears on silver and bronze coins of Seleucus II at Susa,<sup>13</sup> nos. 13–15 of the hoard can be attributed to this mint without question.

<sup>11</sup> ↗ 8.55 Rev.: in outer l. field, ΔP; in outer r. field, Α.

<sup>12</sup> → 8.50 Münzen und Medaillen 19, Jun. 1959, 523.

<sup>13</sup> *ESM* 365; G. le Rider, *Suse sous les Séleucides et les Parthes* (Paris, 1965) p. 49, nos. 15–18.

*Ecbatana*

Stater no. 16 adds a new issue to the known gold coinage of Seleucus I at Ecbatana, and is the counterpart to silver issues of this mint (Newell's Series III, Group A, *ESM* 480–83).

Nos. 17–18, with the portrait of Seleucus II and an unusual seated Apollo reverse, belong to the earliest issues of this king at Ecbatana. No. 17 is a companion piece to *ESM* 546, a tetradrachm with the same monograms, and no. 18 is linked by monogram to the series *ESM* 547–50.

Nos. 19–20 are another early striking of Seleucus II at Ecbatana. Stylistically they fall between staters nos. 17–18, above, which carry the symbol of a grazing horse on their reverse, and Newell's Series II (*ESM* 556–60), whose tetradrachms carry only a horse's head as civic badge. Staters nos. 21–25 of the hoard are part of Series II: their monograms Ξ and Κ relate them to the tetradrachm issue *ESM* 556. The single obverse die used on these coins was also employed, perhaps concurrently, on a drachm (*WSM*, p. 29, no. 556A), and at a later point on a stater (*ESM* 761; see *WSM*, p. 29, pl. 3, 8).

The latter coin represents a departure from the conventions both of Seleucus' coinage and that of the mint at Ecbatana, as Newell has noted. For one matter, Apollo is portrayed as leaning on a tripod, an exception for staters of Seleucus; for another, the coin bears no monograms or symbol. This highly unusual absence of identifying marks is also a characteristic of staters nos. 26–28 of the hoard; as a consequence, these have also been assigned to Ecbatana. This attribution is supported by the fact that they were struck from identical obverse dies and that they appeared in virtually unused condition near the ancient city of this mint. It would seem, therefore, that these coins represent the last striking of Seleucus II at Ecbatana, as well as the latest identifiable issues of the hoard.

*Bactra*

The three coins nos. 29–31 are well-known issues of Bactra. No. 29 shares a common reverse die with *ESM* 704 $\eta$  (pl. 52, 16), and therefore marks the transition point between coinage ascribed by Newell to Antiochus I and succeeding gold staters of Antiochus II.

*Uncertain Mint in the East*

Certain characteristics of the two Alexander-type staters, nos. 32 and 33, suggest a non-eastern origin: the unusually high relief of their obverse, for example, and their general crudeness differentiate them from early Seleucid issues of any eastern mint. Their monogram, moreover, could be the NA (or its variant, VA) on a series of tetradrachms of Seleucus II of western striking.<sup>14</sup> However the excellent state of preservation of these coins—indicating their issuance only a short time before the hoard's interment—and the fact that they were struck from the same, oriented dies, are telling points supporting their attribution to a mint not far removed from the hoard's provenance in western Iran, probably during the reign of Seleucus II. The palm branch motif suggests that they were the product of a mint influenced by coinage of Seleucus at Seleuceia (see below), but they bear no other resemblance to issues of that city.

The Alexandrine stater no. 34, like nos. 32–33, carries the unusual type of a Nike with a palm branch on its reverse. Its distinctive and rather complex monogram is unrecorded elsewhere, and gives no clue as to its origin. A possible eastern striking is supported by the coin's provenance and its fresh, virtually unused state of preservation which, moreover, suggests its issuance not long before the hoard's burial, some time during the reign of Seleucus II. Within this context one may note the resemblance between no. 34's obverse style and that of a drachm struck in Seleucus' name at Seleuceia (*WSM*, p. 17, 204A; Plate 5, D). Stater and drachm differ in their standard obverse conventions (e.g. Corinthian helmet on the stater, Attic helmet on the drachm), but the rendering of Athena's hair and, to a certain extent, eye and lips is quite similar in both cases. Equally indicative is the fact that both coins share the unusual reverse type of Nike carrying both wreath and palm branch, a convention used elsewhere on Alexandrine staters of this period on nos. 32–33 above and, in the west, only on issues identified with Tarsus.<sup>15</sup> Finally, no. 34 is struck from oriented dies (↑↑), a practice employed in the east at this time only at Seleuceia. Seleuceia, therefore, appears to be the most likely mint for this coin, although the assignment must be considered tentative.

<sup>14</sup> *WSM* 1645–46; also Seyrig (above, n. 7), 1.128–29.

<sup>15</sup> *WSM* 1305–6, 1308; no. 2, above.

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## FURTHER REFLECTIONS ON THE EARLY CISTOPHORIC COINAGE

(PLATE 6)

FRED S. KLEINER

The publication of a corpus of coins often prompts scholarly debate and the searching in private collections for rare and unusual pieces not included in the corpus. Otto Mørkholm's "Some Reflections on the Early Cistophoric Coinage,"<sup>1</sup> a review of my 1977 corpus,<sup>2</sup> and the appearance of a new cistophorus in a private collection (Plate 6, 1) have compelled me to address myself once again to the problems raised by the early cistophori.

The two problems that have most occupied the attention of historians and numismatists since the eighteenth century are the date of inception of the cistophori and the nature of the cistophoric coinage. Prior to the publication of *ECC* the consensus of opinion placed the beginning of the coinage shortly after 190 B.C. and connected the first cistophori with the enlargement of the Attalid kingdom after the Battle of Magnesia and the Treaty of Apameia. The coinage was also generally regarded as federal in character, the result of a monetary union among several cities of Asia Minor. In his unpublished notes Noe indicated that he believed that the

<sup>1</sup> *ANSMN* 24 (1979), pp. 47–61; henceforth cited as Mørkholm. I am very grateful to Dr. Mørkholm for sending me a copy of his manuscript prior to its publication.

<sup>2</sup> F. S. Kleiner and S. P. Noe, *The Early Cistophoric Coinage*, ANSNS 14 (New York, 1977), henceforth cited as *ECC*.

cistophori were introduced later, probably ca. 166 B.C., and I argued in the published corpus that the new coinage should be connected with Eumenes II's defeat of the Galatians and the subsequent acceptance of Pergamene dynastic cults in the Greek cities of Asia Minor. I also sought to demonstrate on the basis of inter-city die linkage of which Noe was unaware that there were fewer mints issuing cistophori than there were cities placing their ethnic upon them and that the uniform types were not chosen by common agreement among members of a confederacy, but were imposed by Pergamum upon its subjects. The cistophoric coinage with its unique weight standard was, in my view, a royal coinage designed to create a monetary monopoly for the Attalids in Asia Minor.<sup>3</sup>

Despite a number of areas of disagreement, Mørkholm and I are thus in complete accord on two issues of fundamental importance: the dissociation of the first cistophori from the events of 190–188 B.C. and the royal nature of the issues. In a letter to me dated July 27, 1978, Mørkholm stated that he regarded his conclusions as a “refinement of [my] own results” and the differences between our points of view are indeed comparatively minor. Nevertheless, because of the importance of the cistophoric coinage, the chief currency of Asia Minor for over three centuries, and because new evidence bearing on the nature of the coinage has recently come to light, a review of Mørkholm’s arguments is in order.

### THE BEGINNING OF THE CISTOPHORIC COINAGE

Mørkholm would place the date ca. 175 B.C., during the peaceful interlude of 179–172, in order to obtain “a more even distribution of the coinage over the period 188–140 B.C.,”<sup>4</sup> and because he believes that historical circumstances favor the earlier date. He considers it unlikely that Eumenes would introduce a “separatist” coinage at a time when his relations with Rome were strained. Mørkholm’s chronology would also permit the coinage of Synnada to be dated ca. 168–166, rather than ca. 160–150, allowing the curious BA-ΣY-AP issue of Synnada to be as-

<sup>3</sup> *ECC*, pp. 10–18, 120–27, with citation and discussion of earlier bibliography.

<sup>4</sup> Mørkholm, p. 49.

sociated with King Ariarathes IV of Cappadocia, ‘‘who must have assisted Eumenes in 166 B.C. in his final battle against the Galatians.’’<sup>5</sup>

The new chronology has undeniable attractions, but Mørkholm’s arguments are not conclusive. As he himself acknowledges, an even distribution of coinage would be an unusual phenomenon, and as I myself pointed out when arguing for a date of ca. 166 B.C., ‘‘it must be remembered that numismatic changes do not always coincide with political events.’’<sup>6</sup> Nevertheless, I continue to believe that the creation of the cistophoric coinage, and with it of an Attalid monetary monopoly in Asia Minor, makes more sense at a time when Eumenes was on bad terms with the Romans. The military alliance of 166 of Ariarathes IV with Eumenes is, as Mørkholm is aware, not recorded in any ancient source, but it is easy to see why the reading of BA-AP as King Ariarathes is attractive to Mørkholm. I would, however, reiterate the note of caution I expressed in *ECC* as to reading the BA and AP of this issue together.<sup>7</sup> The internal evidence of the cistophoric coinage does not justify such a reading. In the Aristonicus series BA always appears in the left serpent’s lower coil and ΣΥ in the right serpent’s lower coil, so that one may naturally read the line across as King Eumenes. In the Synnada series BA is in the left field, ΣΥ in the right field with a symbol, and AP is placed to the lower left, a position normally occupied by the initials or monogram of a mint official. The natural way to read this piece is BA-ΣΥ, with AP as an adjunct. (Indeed, BA should be the ethnic of the issuing city, and ΣΥ should also be a magistrate’s mark, but die linkage convincingly establishes this as a Synnada issue.) I remain skeptical that any King Ar . . . is involved with these pieces, and to base a chronology for the cistophori in large part upon the association of the issue with a specific king seems to me to be unfounded.

Mørkholm and I agree that the first cistophorus was struck sometime between ca. 180 and ca. 150. The arguments for the new chronology seem to me to be weak. Certainty is not yet, and may never be, possible. This is why I concluded in *ECC* that 166 was ‘‘very likely’’<sup>8</sup> the date of

<sup>5</sup> Mørkholm, p. 53.

<sup>6</sup> *ECC*, p. 16.

<sup>7</sup> *ECC*, p. 81.

<sup>8</sup> *ECC*, p. 18.

the first cistophorus. Neither chronology has been "proved."<sup>9</sup> Should Mørkholm's be shown one day to be correct, it would not significantly change the scheme of *ECC*. The two chronologies are only a decade or less apart for the period prior to 140 B.C. and are identical thereafter.

#### APAMEIA AND THE NATURE OF THE CISTOPHORIC COINAGE

More serious are Mørkholm's objections to the conclusions of *ECC* with regard to the location of the Π mint and the implications of the inter-city die linkage. He argues that the Π cistophori were not struck at Pergamum and cannot have been minted at Apameia under Pergamene supervision because the two cities are far apart and had no direct highway connections. The Π issues should therefore be attributed to Parium or Apollonia. I do not believe, however, that the heretofore universal identification of Π as Apameia is open to question. Geographical arguments carry little weight, whether or not one places the production of cistophori at Π itself or at Pergamum. Even Mørkholm admits that at least Pergamum Series 11b was struck for Synnada by Pergamum, and Synnada is even further from Pergamum by main road than is Apameia. If my hypothesis of Pergamene production of the Π cistophori is accepted, the geographical argument is irrelevant. It is also highly unlikely that the important city of Apameia should have struck cistophori only in the first century B.C. (albeit with the ethnic ΑΠΑ)<sup>10</sup> and that the earlier Π cistophori are products of a city like Parium or Apollonia, which did not strike cistophori after 133.

Mørkholm believes that the use of a double flute as symbol on all the late cistophori of ΑΠΑ and the choice of a flute as symbol on four of the latest Π cistophori cannot be adduced as evidence for common production because of the nearly half-century gap between the Π and ΑΠΑ cistophori. Nevertheless, the flute (whether single or double) is used as a symbol on the cistophori of no other city and is an appropriate symbol for Phrygian Apameia because of its association with Marsyas.<sup>11</sup> More

<sup>9</sup> Mørkholm, p. 50.

<sup>10</sup> F. S. Kleiner, "The Late Cistophori of Apameia," in *Essays Thompson*, pp. 119–30.

<sup>11</sup> Mørkholm, p. 60 (Addendum); *ECC*, pp. 86, 93–95.

important, Mørkholm overlooks the fact that the record of cistophoric countermarks affixed to Attic-weight coins sometime before 133 B.C. includes ΑΠΑ,<sup>12</sup> but no certain reading that could be construed as Apollonia or Parium.<sup>13</sup> There are thus pre-133 Π cistophori, but no pre-133 Π countermarks, and pre-133 ΑΠΑ countermarks, but no pre-133 ΑΠΑ cistophori. It is difficult to believe that ΑΠΑ and Π refer to different cities; Π is Apameia.<sup>14</sup>

The attribution of the Π cistophori to Apameia was also supported by Noe, but he cannot be held accountable for the statement in *ECC* that the cistophori of Pergamum, Sardes, Synnada and Apameia "were produced from a common pool of anvil and punch dies,"<sup>15</sup> since at the time of his death Noe did not know of any inter-city die links in the cistophoric series.<sup>16</sup> Mørkholm argues that the Π issues that share obverse dies with Pergamum were not minted at Pergamum, but at Π, which received cistophoric dies from the central mint. He also postulates that there was a "transference of dies" between Pergamum and Synnada and between Sardes and Synnada and that "the staff of officials was also moved back and forth."<sup>17</sup> According to Mørkholm, instances of inter-city die linkage should be viewed as special cases where personnel and dies were sent from Pergamum to the smaller mints during periods of crisis. I certainly agree that the brief duration of the strikings of Synnada, Laodiceia and the uncertain city of KOP<sup>18</sup> should be regarded as special issues, and Mørkholm's attempts to associate peak minting periods with specific historical events is potentially fruitful. Nevertheless, I believe that my suggestion that coins, rather than personnel

<sup>12</sup> The date is very difficult to determine because the evidence is contradictory. The question is too complicated to be discussed here. I wish to acknowledge fruitful, if as yet inconclusive, discussions with Nancy Waggoner (ANS) on the dating of the cistophoric countermarks.

<sup>13</sup> R. Mowat, "Trois contremarques inédites sur des tétradrachmes de Sidé. Extension de l'union monétaire cistophorique," in *CorNum.*, pp. 189–208.

<sup>14</sup> The use of different forms of ethnic for the countermarks and the cistophori of the same city is not unique to Apameia. See Mowat (above, n. 13).

<sup>15</sup> *ECC*, p. 121.

<sup>16</sup> *ECC*, p. 1.

<sup>17</sup> Mørkholm, p. 52.

<sup>18</sup> *ECC*, pp. 100–1.

and dies, were delivered to the smaller cities is preferable to Mørkholm's theory.

Mørkholm's hypothesis of a transferral of personnel and dies is dependent, in the case of Apameia, on the assumption that the record of cistophoric dies is sufficiently complete to establish that the Pergamum-Apameia die links all belong to a restricted period and that, consequently, the die links testify only to the central mint's augmentation of the capacity of the  $\Delta$  mint during "a couple of years" sometime prior to 140 B.C.<sup>19</sup> He also finds that "Kleiner's theory is rather odd because when an obverse die is used both with Pergamum and  $\Delta$ -reverse, the symbols are always different."<sup>20</sup> I will not repeat here the reasons other than die linkage for my attribution of all the Apameia cistophori to the Pergamene mint, but shall deal only with new evidence that has come to light that significantly weakens Mørkholm's contention that the use of Pergamene dies by Apameia (or vice versa) was restricted to a short period coinciding with heightened military activity. A new cistophorus (Plate 6, 1), kindly brought to my attention by an American collector who prefers to remain anonymous,<sup>21</sup> documents the sharing of reverse as well as obverse dies between Pergamum and Apameia after 140 B.C., when no die links were previously recorded, but when I had noted the appearance of the same symbols and magistrates' initials on the reverses of both cities' cistophori.

The new cistophorus belongs to Apameia Series 30<sup>22</sup> and has a club with lion's pelt as symbol in the right field and the initials  $H\Gamma I$  in the lower coil of the left serpent. It was struck from obverse die A46, used for two other pieces in this series (Plate 6, 2-3) as well as for all recorded examples of Series 29.<sup>23</sup> The illustrations reveal that when obverse die A46 was used to strike the new piece it was in better condition than it was when it was used to strike the other two recorded pieces of Series 30. This fact is of crucial importance because the reverse die of the new

<sup>19</sup> Mørkholm, p. 54.

<sup>20</sup> Mørkholm, p. 54.

<sup>21</sup> 12.68 g. The coin remains in a private collection; a cast of the piece is in the ANS collection.

<sup>22</sup> *ECC*, p. 95.

<sup>23</sup> *ECC*, p. 95.

piece does not bear the usual ethnic  $\Delta$ , but rather  $\alpha\epsilon$ , which has been previously recorded only once, on a didrachm of Pergamum.<sup>24</sup> Indeed, the monogram  $\alpha\epsilon$  cannot be expanded to read Apameia (nor Parium or Apollonia), but only as ΠΕΡΓΑ . . . , i.e. Pergamum. It is very likely that the unusual form is to be explained as  $\Delta$  recut to  $\alpha\epsilon$  at a time when coins were needed for Pergamum, whose usual ethnic is  $\tau\pi\epsilon$ . One day an example of an earlier use of the reverse die may come to light with the ethnic in its canonical  $\Delta$  form. If the hypothesis of a recut ethnic is accepted, the following sequence of events may be reconstructed:

1. Obverse A46 is used to strike  $\Delta$ -club with lion's pelt-ΗΓΙ (Series 30) cistophori.
2. One or more  $\Delta$  Series 30 reverse dies are recut to produce  $\alpha\epsilon$  (Pergamum) cistophori struck from obverse A46 (Plate 6, 1).
3. Obverse A46, now somewhat worn, is used with different reverse dies to strike more  $\Delta$  Series 30 cistophori (Plate 6, 2-3).

This sequence is, to my mind, much more consistent with the theory of a common place of minting for Pergamum and  $\Delta$  cistophori than with Mørkholm's theory of dies being transferred back and forth between Pergamum and  $\Delta$ . It suggests that the Pergamene mint officials adjusted the relative number of coins produced for Pergamum and Apameia by having a reverse die recut rather than by having a new one produced. A Series 30 reverse die "borrowed" by Apameia could not have been sent back to Pergamum (with obverse die A46) for recutting and subsequent use there, when Series 30 continued to be struck at Apameia from the same obverse die A46. According to Mørkholm's theory, obverse die A46 would have had to be returned to Apameia after use by Pergamum. Whatever the distances involved, this is impractical, to say the least.

<sup>24</sup> *ECC*, p. 25, pl. 3, 8. My earlier reading of the symbol as stag (?) r. is incorrect. The correct reading is dolphin l.; the piece should have been catalogued as belonging to Pergamum Series 23, *ECC*, p. 30, or, less likely, Series 3, *ECC*, p. 22. The dolphin of Apameia Series 2, *ECC*, p. 86, faces right.

If one does not accept the hypothesis of recutting the Π ethnic to approximate the canonical ΡΕ of Pergamum, but views the new cistophorus (like the previously recorded didrachm) as a Pergamene issue with an unusual form of ethnic,<sup>25</sup> then the new piece is evidence for the sharing of obverse dies between, and the duplication of reverse symbols and initials on, the issues of Pergamum and Apameia at a time of light minting activity by Apamaia—about one obverse die per year after 140 B.C. This too is incompatible with Mørkholm's theory of Pergamene dies being used for Π only at peak minting periods. I believe the evidence continues to support the theory I put forward in *ECC* of continuous production of Π cistophori by Pergamum between 166 and 133 B.C.

<sup>25</sup> The club with lion's pelt is used as symbol in Pergamum Series 31. *ECC*, p. 35. (Plate 6, 4-5).

## JEWISH FRIENDS AND ALLIES OF ROME

C. M. KRAAY

In recent years two issues of coinage have received attention because they record the special relationships with Rome of a Jewish leader and a Jewish community respectively. While the general line of interpretation has obviously been correct, the phraseology in which their relationships were expressed has not been fully understood.

### 1. AGRIPPA I AND ROME

An issue of King Agrippa I has been known since 1849 from a defective example in Paris; since then four more examples, all more or less defective, have become known, the legends of which have been carefully collated by A. Kindler.<sup>1</sup> It is clear that at least two pairs of dies were used, each pair with variant legends and different abbreviations, though conveying the same general message.

The obverse does not cause major difficulty. The type shows a togate and veiled male figure standing facing, holding a patera in his right hand and presumably some other priestly attribute in his left. He is flanked on each side by a standing figure facing him with one arm raised; the figure on the left seems to be military, wearing a cuirass and cloak; the details of the figure on the right are unclear, though the

<sup>1</sup> A. Kindler, "A Coin of King Agrippa I Commemorating His Alliance with Rome," *Bulletin of the Museum Haaretz, Tel Aviv* 11 (1969), pp. 12-21.

dress could be similar. The legend on the Paris example reads ΒΑΣ ΑΓΡΙΠΠΑΣ ΦΙΛΟΚΑΙΣΑΡ while another, in the Kadman Numismatic Museum adds the letters ΜΕ (*μέγας*) after ΒΑΣ, and employs the four-barred *sigma* throughout. This legend clearly names the principal figure in the type.<sup>2</sup> Kindler suggests (p. 17) that the two attendant figures are female personifications of territories granted to Agrippa.<sup>3</sup> This is possible, but no distinguishing attributes are visible, nor is their female character certain. In view of the very specific references of the coin and of the parallel text of Josephus (see below), it may be preferable to see in these figures military (or military and civilian) acclaim of the act being performed by the central, named, figure.

The reverse type is a pair of clasped hands symbolising *Fides* or *Concordia*; around this central device a long legend is disposed in two concentric circles separated by an oak wreath. On the Kadman Museum example the legend is clear except at two points: outer circle starting bottom left, ΟΡΚΙΑ · ΒΑΣ · ΜΕ · ΓΡΙΠΠΑ [sic] · ΠΡ · ΣΕΒ · ΚΑΙΣ [ ΔΙΗΜΟ ; inner circle starting top left, ΡΩΜ · ΦΙΛ[ ] ΣΥΜΜΑΧ · ΑΥΤΟΥ. The gap in the outer circle is caused by the legend running off the flan for about one-fifth of its total length; this space could accomodate six to eight letters; in the inner circle two or three letters have been obliterated by a countermark.

On the die or dies represented by the Paris and other examples the legend is less full and is differently divided between the outer and the inner circle. The basic elements appear to be: outer circle starting top right, ΒΑΣ · ΑΓΡΙΠΠΑ · ΠΡ · ΣΕΒ · ΚΑΙΣΑΡ[ ΣΥΝ] ΚΛΗΤΟΝ; inner circle starting top right, ΔΗΜ · ΡΩΜ(ΑΙΩΝ?) · ΦΙΛ[ ] · Κ · ΣΥΜΜΑΧ · ΑΥ. The important addition here is the clear mention of

<sup>2</sup> It is not clear why Kindler (above, n. 1), p. 17, read the legend of the Kadman Museum specimen as genitive, thus changing its meaning from a descriptive label to a numismatic ethnic. The genitive can hardly mean "from the great king Agrippa," as he suggests. Agrippa is clearly nominative on the Paris example.

<sup>3</sup> I have not been able to examine actual examples; the clearest obverse is that of the Paris specimen of which I have seen the electrotype in the BM. I cannot detect the wreaths in the hands of the flanking figures, as seen by Kindler (above, n. 1), p. 17. The right hand figure appears to hold nothing. In the area of the hand of the left figure the surface of the coin is much disturbed; the figure, moreover seems too far away to be crowning Agrippa. The patera in the hand of Agrippa is perfectly clear.

Σύνκλητος (Senate) in a position in the phrase corresponding to the gap in the outer circle of the Kadman Museum specimen. Surely this word should be restored in the gap rather than the name of Claudius, which Kindler seems to expect.<sup>4</sup> Another difference between the two versions is the introduction of the word ΟΡΚΙΑ on the Kadman Museum specimen. Perhaps this is the cause of the curious grammatical lapse whereby the king's name has been left in the nominative — (Α) ΓΡΙΠΠΑ — instead of the genitive required by the new phrase; the engraver has simply inserted ΟΡΚΙΑ and then copied the old legend without change of grammar.

Whatever the explanation of the blundering of the king's name (for the initial *alpha* does really seem to be missing) the obvious sense of the phrase is "oaths of the Great King Agrippa sworn in relation to (πρὸς) Augustus Caesar, the Senate and People of Rome." There follow words which include references to friendship (ΦΙΛ...) and alliance (ΣΥΜΜΑΧ, ΣΥΜΧΙ) but of which the precise form and syntax has remained uncertain. The persistent tendency to postulate abstract nouns (*φιλία, συμμαχία*) derives from Mommsen whose version, based on the defective Paris example alone, was accepted as plausible by Hill.<sup>5</sup> Kindler, on much fuller evidence, proposes to read the Kadman Museum coin as "*Ορκια βασιλέως μεγάλον Ἀγριππα πρὸς Σεβαστὸν Καισαρα (καὶ) δῆμον Ρωμαίων φιλία συμμαχία αὐτοῦ*" which he interprets as "sworn oath: friendship and alliance (by) the great king Agrippa to Augustus Caesar (Claudius) and the People of Rome."<sup>6</sup> Despite apparent sense, it is hard to believe that a few simple Greek words can be interpreted in this way with a genitive (*βασιλέως*, etc.) depending not on the word which it follows (*δῆμον*) but on two words tucked away at the end of the phrase. Above all, this reading gives no weight to *αὐτοῦ* ("his"), which on earlier specimens had been obscurely abbreviated ΑΥ, but which on the Kadman Museum example is written clearly and in full. The words preceding *αὐτοῦ* must, therefore, describe the Emperor, Senate and People of Rome in relation to Agrippa—not "friendship" and "alliance," but "friends and allies."

<sup>4</sup> Above, n. 1, p. 19.

<sup>5</sup> *BMCPalestine*, pp. xcvi–xcviii.

<sup>6</sup> Kindler (above, n. 1), pp. 18–19.

Leaving aside the precise degree of abbreviation and the presence or absence of *K* or *KAI* ("and") at various points, which only the discovery of further specimens can clarify, the full sense of the phrase is "oaths of the Great King Agrippa (sworn) in relation to Augustus Caesar, the Senate and People of the Romans, *his* friends and allies." The word *δοκια* means literally "oaths" but was used also of the rites and ceremonies with which a treaty was concluded, and so came to be used for the treaty itself. The language here is presumably official and can easily be translated back into the familiar Latin terms in which the treaty between Agrippa and Claudius, recorded by Josephus,<sup>7</sup> was presumably couched: *foedus a rege Agrippa factum cum Augusto Caesare et Senatu Populoque Romano, amicis et sociis.*

## 2. SEPPHORIS/DIOCAESAREA AND ROME

The special relationship between Sepphoris/Diocaesarea and Rome has recently been fully discussed by Y. Meshorer;<sup>8</sup> the documents latest in date are a group of bronze coins issued under Caracalla and Elagabalus, the reverses of which show a long and highly abbreviated inscription in five lines within a wreath. As in the case of Agrippa a newly discovered version has provided fresh clues for the solution of an old puzzle.

The least abbreviated, and therefore the clearest, version reads ΔΙΟΚΑΙCAP / IΕΡ AC AYT / ΠΙC ΦΙΛ CYM / MAX PΩ / MAI.<sup>9</sup> In the light of our interpretation of the coin of Agrippa, we can once again dispense with the abstract nouns (*φιλία, συμμαχία*) advocated by Meshorer, and recognise Diocaesarea as another town enjoying the status of *amicus et socius Romanorum*, just like Side, Sagalassus and Sillyum, on whose coins the phrase is spelled out in full.<sup>10</sup>

<sup>7</sup> Josephus, *Ant.* 19, 275–76. "Ορκιά τε αὐτῷ (Κλαυδίῳ) τεμνέται πρὸς τὸν Ἀγριππαν ἐπὶ τῆς ἀγορᾶς μέσης ἐν τῇ Ρωμαίων πόλει.

<sup>8</sup> Y. Meshorer, "Sepphoris and Rome," *Essays Thompson*, pp. 159–71.

<sup>9</sup> Meshorer (above, n. 8), p. 168, no. 1.

<sup>10</sup> Sillyum: *BMC Pamphylia*, pp. 168–69, nos. 19 and 24, ΦΙΛΗΣ ΣΥΜΜΑΧΟΥ ΡΩΜΑΙΩΝ ΣΙΛΛΥΕΩΝ. Side: *SNGvAulock* 4853, ΠΙΣΤΗΣ ΦΙΛΗΣ ΣΥΜΜΑΧΟΥ ΡΩΜΑΙΩΝ ΜΥΣΤΙΔΟΣ ΣΙΔΗΣ. Sagalassus: *SNGvAulock* 5200, ΡΩΜΑΙΩΝ ΣΑΓΑΛΛΑΣΣΑΙΩΝ ΠΡΩΤΗΣ ΠΙΣΙΔΙΑΣ ΦΙΛΗΣ ΣΥΜΜΑΧΟΥ (the text of *SNG* omits the *sigma* of ΦΙΛΗΣ and the second *mu* of ΣΥΜΜΑΧΟΥ).

On other examples the final part of the legend is given in the highly abbreviated form Φ C IEP BC K(A) Δ P(Ω).<sup>11</sup> Since Φ C must stand for the ΦΙΛ CYMMAX of the previous coin, the rest of the legend must be equivalent to ΡΩΜΑΙ, and the reading IEP(ας) B(oυλη)Σ KA(i) Δ(ημον) ΡΩ(μαιων) (= “Senatus Populique Romanorum”) is inescapable. Meshorer's interpretation, again dependent upon abstract nouns, sees a reference to a treaty of friendship and alliance between the *iέρα βούλη* (of Diocaesarea) and the *σύνκλητος καὶ δήμος Ρωμαίων*. This produces a phrase of some obscurity in which the relationship of the various elements to each other is far from clear.

Both Agrippa and Diocaesarea had entered into formal treaties with Rome whereby they undertook “to have the same friends and enemies as the Romans” (Livy 38.8.10); evidently the gift or exchange of wreaths was a part of the ceremonial, for on both issues the legend is enclosed in a wreath, as it is also on the coin of Side cited above.<sup>12</sup> The central clasped hands of the Agrippa reverse, symbolising *Concordia*, is likewise repeated on the coins of Sagalassus and Sillyum already cited.<sup>13</sup>

<sup>11</sup> The only significant variation between the different versions is K C instead of Φ C in one instance. This could be dismissed as an engraver's error, but K is perhaps better read as *καὶ*, thus adding the most recent honour (*συμμάχον*) to a list of older epithets; since a *socius* was always an *amicus* as well, the abbreviation for the latter could be omitted without loss of meaning.

<sup>12</sup> See above, n. 10.

<sup>13</sup> See above, n. 10.



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## THE IMPERIAL TETRADRACHMS OF HELIOPOLIS

KENT J. RIGSBY

A peculiar episode in the numismatic history of Roman Syria took place in the years 215 to 218, wherein some two dozen Imperial mints were added to the three that had previously served Syria. For this brief period the numerous mints issued silver tetradrachms, which bear on the obverse the emperor's portrait and on the reverse an eagle and some emblem identifying the city where the mint was located. The special interest of these emblems is that, in contrast to the diverse types of a local civic coinage, they reflect an exclusive choice (whether by the city or the Imperial authorities): in most cases only one emblem was used to represent the city, and its selection can thus suggest what was especially valued at that time. To this interesting body of coins A. R. Bellinger devoted a meticulous study, settling decades of debate over many attributions.<sup>1</sup> The present note is intended merely to add an argument in favor of one of his assignments.

A number of the tetradrachms use as their emblem a lion or a lion with a star above. Imhoof-Blumer attributed all these to Hierapolis in northeastern Syria, arguing from the presence of a lion on some local bronzes of this city: here was the home of Atargatis, the *dea Syria*, and the lion is her animal.<sup>2</sup> Seyrig, however, remarked that the coins with a lion alone are quite distinct in style from those with lion and star, and

<sup>1</sup> A. R. Bellinger, *The Syrian Tetradrachms of Caracalla and Macrinus*, ANSNS 3 (New York, 1940).

<sup>2</sup> *GrMünz*, pp. 236–37.

concluded that two mints must be postulated. He assigned the lion coins to Heliopolis in Coelesyria on the grounds that Jupiter Heliopolitanus is portrayed on the shield of Caracalla on the obverse of one of these issues. The lion could be understood by the solar-lion associations of this god; while the lion and star coins could be left to Hierapolis.<sup>3</sup> Bellinger, finally, reversed these assignments, on the strength of decisive similarities of style between the lion coins and some local bronzes of Hierapolis. Therefore the device on Caracalla's shield here was just that, representing a real shield of the emperor, and had no relation to the mint. The lion and star coins remained for Heliopolis; their style seemed closest to that of the tetradrachms of nearby Emesa, and the emblem was equally appropriate to the solar lion, the star "representing the sun."<sup>4</sup>

Bellinger's compelling argument from style is of itself sufficient to assign the lion coins to Hierapolis. But the solar lion in ancient art is more commonly shown with the full disk of the sun or the seven-point sunburst; one wants a more specific explanation of the emblem of lion and star.<sup>5</sup> It is now possible, I believe, to offer a more positive argument for assigning this emblem to Heliopolis.

<sup>3</sup> H. Seyrig, *Syria* 13 (1932), pp. 361–62 (*Ant. syr.* 1 [Paris, 1934] pp. 62–63).

<sup>4</sup> Bellinger (above, n. 1), pp. 41–44, 66–67. Seyrig later identified the god on the shield as Apollo of Hierapolis: *Syria* 26 (1949), pp. 17–28 (*Ant. syr.* 4, pp. 19–31). His suggestion here that the lion and star coins might derive from Samosata has been rightly dismissed as unfounded (J.-P. Callu, *La Politique monétaire des empereurs* [Paris, 1969], p. 172, n. 1); but he was right, we shall see, to suspect that the lion is zodiacal. This scholarship has been overlooked by Y. Hajjar, *La Triade d'Héliopolis-Baalbek* 1 (Leiden, 1977), p. 193, n. 4, where the coins are cited from Bellinger's *The Excavations at Dura-Europos, Final Report 6: The Coins* (New Haven, 1949), no. 253, as attributed "without reason" to Heliopolis; Hajjar would give them instead to Beirut, where some later bronzes show a lion with a disk (*BMCPhoenicia*, pl. 11, 6). For better-informed arguments on which are the tetradrachms of Beirut see Bellinger (above, n. 1), pp. 82–83.

<sup>5</sup> The iconography of the solar lion is best attested at Leontopolis in Egypt: P. Perdrizet, "Antiquités de Léontopolis," *Monuments Piot* 25 (1921–22), pp. 349–85; the large sunburst over the lion, p. 385, fig. 15, offers a clear contrast with the small six-pointed star of the tetradrachms, as does the disk over the lion on coins of Beirut (above, n. 4). For bibliography see J. and L. Robert, "Bulletin épigraphique," *REG* 65 (1952), pp. 178–79. Different again is the motif of a lion with a star below the shoulder: H. Kantor, "The Shoulder Ornament of Near Eastern Lions," *JNES* 6 (1947), pp. 250–74.

The cult of Jupiter Heliopolitanus is attested all across the Roman Empire and with various associates in art and thought.<sup>6</sup> But in 1956 R. Mouterde published an altar found in the courtyard of the great temple at Heliopolis itself, dating probably from the second century.<sup>7</sup> The dedication, in Latin, reads I O M H REGVLO, "to Jupiter Optimus Maximus Heliopolitanus Regulus." This epithet occurs nowhere else, but the editor saw at once its significance. Regulus is the brightest star in the constellation Leo, the Lion, marking the heart. In astrology Regulus is ruler of the other stars, and both Regulus and Leo have a solar connection in that the sun is at its most powerful (astrologically) when in Leo, its domicile. Father Mouterde was able to add other evidence, less direct than the altar, showing that in high Imperial times Jupiter Heliopolitanus was given an astrological interpretation.<sup>8</sup>

I would suggest that this interpretation, the equation of the god with Regulus, lies behind the lion and star emblem and confirms Bellinger's attribution of these coins to Heliopolis. The emblem is not simply or broadly solar, with the star meant to suggest the sun, but solar in the particular logic of the Latin altar: the star is Regulus, the Heliopolitan god in his astrological role, and the lion is Leo. No matter who picked this emblem for the mint, we may suspect that both the Syrian emperor Caracalla and the people of Heliopolis had an interest in giving official place to this interpretation of the god. For under Regulus, kings were born and guided: "in the second part of Leo is found a bright star; whoever has his horoscope under this star will be a mighty king."<sup>9</sup>

<sup>6</sup> Hajjar (above, n. 4) has provided a valuable collection of texts.

<sup>7</sup> "L'Astrologie à Héliopolis-Ba'albek," *Bulletin du Musée de Beyrouth* 13 (1956), pp. 11–21; Rey-Coquais, *IGLSyr.* VI. 2724; Hajjar (above, n. 4), no. 26.

<sup>8</sup> H. Seyrig, "Le culte du Soleil en Syrie à l'époque romaine," *Syria* 48 (1971), pp. 345–48, argued that the god was not directly equated with Helios before late antique speculations to this effect.

<sup>9</sup> Firm. Mat. 8. 31. 4, often cited; see for parallels F. Cumont, *L'Égypte des astrologues* (Brussels, 1937), pp. 213–14; Mouterde (above, n. 7), p. 12.



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## A HOARD FROM SYRIA COUNTERMARKED BY THE ROMAN LEGIONS

(PLATES 7-8)

GREGORY G. BRUNK

The American Numismatic Society recently acquired a hoard of 164 bronze coins of Antioch-on-the Orontes dating from the first century B.C. to the first century A.D. and of Tiberian dupondii of Commagene.<sup>1</sup> Over 55 percent of the coins in the hoard are countermarked. Many of the stamps are validation marks of at least four Roman legions. It seems likely that the legionary countermarks were applied at the end of Trajan's reign, during the Parthian War.

Although most coins are very worn, the distinctive reverse type of Commagene (crossed cornucopiae) and Antioch (SC within wreath) allowed nearly all coins to be attributed to a mint.<sup>2</sup> Fewer than 25 specimens, however, had any traces of obverse legend remaining. This did not present a problem with the Commagene pieces, which could be assigned to Tiberius, but only 14 Antiochene bronzes were assignable to particular emperors: Augustus (2), Tiberius (2), Nero (4), Vespasian (2), and Domitian (4).

<sup>1</sup> I would like to thank C. Daniel Clark for allowing me to examine this hoard before he donated it to the ANS and William E. Metcalf and an anonymous reader for their comments on the manuscript.

<sup>2</sup> There are five apparent intruders: Seleucus I (*BMCSeleucid*, p. 5, no. 44) with anchor countermark on reverse; unidentified Seleucid bronze with unidentified countermark on reverse; Aretas IV and Shaqilath of Nabatea (*BMCArabia*, p. 8, no. 20), which has a markedly different light, soft green patina; and two Byzantine bronzes.

## CATALOGUE

(For identification of countermarks, see Table 1.)

(Weights are given only for countermarked pieces.)

## ANTIOCH: FIRST CENTURY B.C.

1. Head of Zeus r./Zeus seated on throne. 11.60 g *Obv.*: CM. female bust r. on neck.

## ANTIOCH: IMPERIAL ISSUES WITHOUT BUST OF EMPEROR

- 2-4. Turreted head of Tyche r./ Lighted and garlanded altar. Date does not show.

## ANTIOCH: IMPERIAL ISSUES WITH IDENTIFIABLE PORTRAIT

(Reverse is SC unless noted otherwise.)

5. Augustus. Inscription not legible, but reverse is not SC. *BMC Syria*, p. 167, no. 134?
6. Augustus.
- 7-8. Tiberius.
9. Nero. 6.29 g *Obv.*: unidentified CM. on neck.
10. Nero. 6.62 g *Obv.*: CM. 16 on neck.
- 11-12. Nero.
13. Otho (?). 15.70 g *Obv.*: CM. 21 on neck.
14. Vespasian.
15. Vespasian. 15.00 g *Obv.*: CM. 2 over CM. 9 on neck.
16. Domitian. *Rev.*: retrograde SC.
- 17-18. Domitian.
19. Domitian. 9.96 g *Obv.*: CM. 16 on neck.

## ANTIOCH: IMPERIAL ISSUES UNASSIGNABLE TO EMPEROR

- 20-76. Not countermarked.
77. 10.22 g *Obv.*: CM. 18 before bust.
78. 7.03 g *Obv.*: CM. 16 on neck.

79. 10.75 g *Obv.*: CM. 9 over eye.
80. 11.48 g *Obv.*: CM. 26 on head.
81. 11.62 g *Obv.*: CM. 2 on neck.
82. 11.84 g *Obv.*: CM. 8 on neck.
83. 11.85 g *Obv.*: CM. 9 on head; CM. 8 behind head.
84. 12.07 g *Obv.*: CM. 9 (or 8) on neck.
85. 12.07 g *Obv.*: CM. 8 before head.
86. 12.18 g *Obv.*: CM. 8 on neck.
87. 12.23 g *Obv.*: CM. 20 on neck; CM. 10 over CM. h (?) before bust.
88. 12.26 g *Obv.*: CM. 8 on head.
89. 12.38 g *Obv.*: CM. 18 before bust.
90. 12.39 g *Obv.*: CM. 9 on head.
91. 12.40 g *Obv.*: CM. 5 before bust.
92. 12.41 g *Obv.*: CM. 8 over eye.
93. 12.56 g *Obv.*: CM. 1 and CM. 12 before bust.
94. 12.61 g *Obv.*: CM. 5 on neck; CM. 26 on head.
95. 12.64 g *Obv.*: CM. 7 before neck.
96. 12.87 g *Obv.*: CM. 16 on neck.
97. 12.89 g *Obv.*: CM. 18 on neck.
98. 12.90 g *Obv.*: CM. 9 (double struck) on neck.
99. 12.96 g *Obv.*: CM. 18 on neck; CM. 21 on head.
100. 13.00 g *Obv.*: CM. 16 (over CM. 2?) on neck.
101. 13.05 g *Obv.*: CM. 2 on neck.  
*Rev.*: unidentified CM.
102. 13.07 g *Obv.*: CM. 26?
103. 13.07 g *Obv.*: CM. 13 before neck; unidentified CM. on neck.
104. 13.16 g *Obv.*: CM. 8 on neck.
105. 13.20 g *Obv.*: unidentified small bust CM. over CM. 9.
106. 13.23 g *Obv.*: CM. 9 over CM. 2 on neck.
107. 13.33 g *Obv.*: CM. 9 on neck.
108. 13.34 g *Obv.*: CM. 8 on cheek.
109. 13.38 g *Rev.*: unidentified bust r. in small shaped indentation CM.
110. 13.42 g *Obv.*: CM. 16 on neck.
111. 13.50 g *Obv.*: CM. 9 on neck.
112. 13.51 g *Obv.*: CM. 9 on neck.
113. 13.53 g *Obv.*: CM. 9 on neck.

114. 13.53 g *Obv.*: CM. 22 on chin.
115. 13.58 g *Obv.*: CM. 4 on neck; CM. 2 over CM. 6 before bust.
116. 13.70 g *Obv.*: CM. 8 on head.
117. 13.92 g *Obv.*: CM. 26 on head.
118. 13.95 g *Obv.*: CM. 3 on neck.
119. 14.00 g *Obv.*: CM. 5 over unidentified CM.
120. 14.00 g *Rev.*: CM. 25.
121. 14.00 g *Obv.*: CM. 12 on neck.
122. 14.21 g *Obv.*: CM. 2 over CM. 26 (?) on neck.
123. 14.24 g *Obv.*: CM. 25 on neck.
124. 14.39 g *Obv.*: CM. 16 on neck.
125. 14.47 g *Obv.*: CM. 11 on neck.
126. 14.70 g *Obv.*: CM. 18 on neck.
127. 14.87 g *Obv.*: CM. 16 on neck; CM. 7 (double struck) before bust.
128. 15.16 g *Obv.*: CM. 2 over eye; CM. 10 on neck.
129. 15.39 g *Obv.*: CM. 16 over CM. 1 on neck.
130. 15.42 g *Obv.*: CM. 18 on neck; CM. small head l. on head.
131. 15.45 g *Obv.*: CM. 23 on neck over CM. 9 on head.
132. 15.48 g *Obv.*: CM. 16 on neck.
133. 15.61 g *Obv.*: CM. 16 on neck.
134. 15.88 g *Obv.*: CM. 9 on head.
135. 15.98 g *Obv.*: CM. 18 on neck.
136. 15.94 g *Obv.*: CM. 18 on neck.

#### LAODICEIA AD MARE

137. 10.23 g Trajan or Domitian. *Obv.*: unidentified CM. on neck.

#### IMPERIAL COINS UNASSIGNABLE TO CITY OR EMPEROR

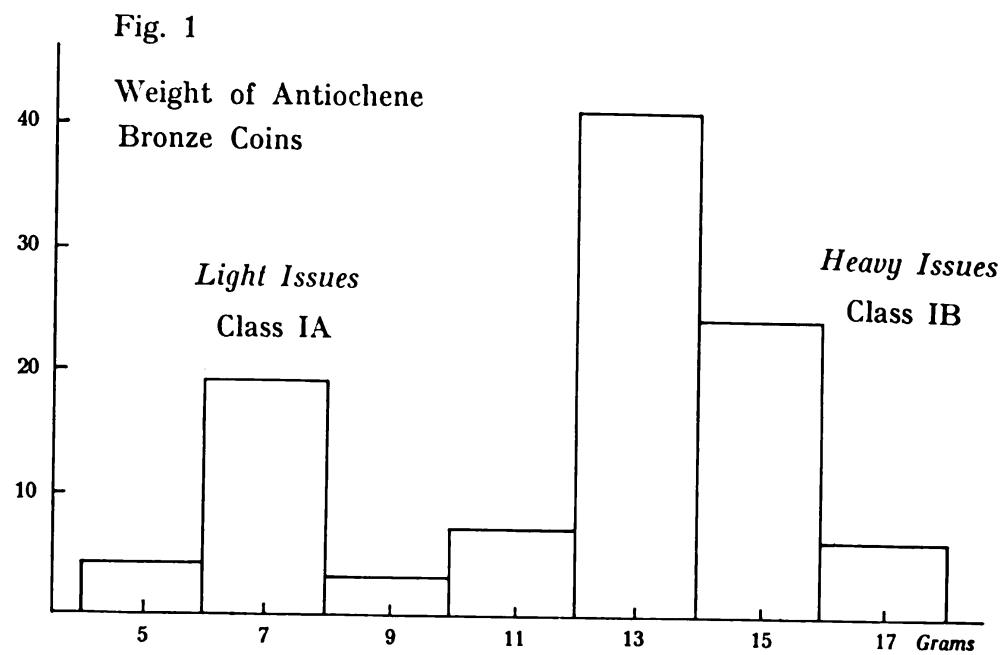
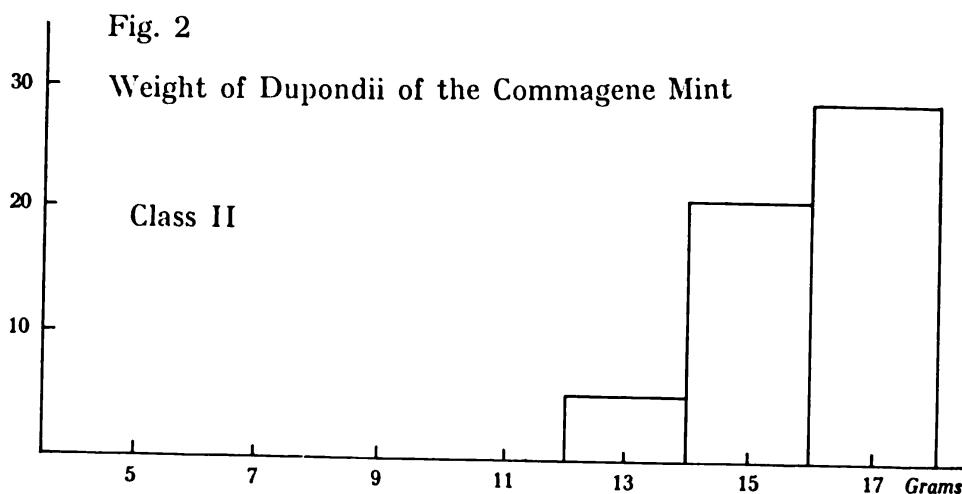
138. 11.83 g *Obv.*: CM. 2 on neck  
*Rev.*: CM. 21.
139. 11.50 g *Obv.*: CM. P... in rectangle
140. 13.17 g *Obv.*: CM. 26 on head.
141. 14.95 g *Rev.*: CM. bearded bust r.; to r., small star.

COMMAGENE. DUPONDII OF TIBERIUS ISSUED A.D. 20–21 (*RIC* 1, no. 43)

- 142–44. No countermarks.
145. 10.02 g *Obv.*: CM. 9 on head.  
*Rev.*: CM. 27 at bottom.
146. 10.20 g *Obv.*: CM. 2 on chin.
147. 10.22 g *Obv.*: CM. 10 on neck; CM. 11 to l. of neck.  
*Rev.*: unidentified CM.?
148. 11.16 g *Obv.*: CM. 14 on head; CM. 19 on neck; unidentified CM. on chin.
149. 11.31 g *Rev.*: CM. 27 at bottom.
150. 12.05 g *Rev.*: unidentified CM. to l.
151. 12.44 g *Obv.*: CM. male bust r. on neck; CM. 14 before bust.
152. 12.46 g *Obv.*: CM. 17 on neck; CM. 14 on head.
153. 12.56 g *Obv.*: CM. 2 before bust.
154. 12.56 g *Obv.*: CM. 24 on neck.
155. 12.83 g *Obv.*: CM. 14 before bust.
156. 12.92 g *Obv.*: CM. 9 over head.
157. 13.05 g *Obv.*: CM. small bust bearded l. (Claudius?) before bust.
158. 14.04 g *Obv.*: CM. 8 on head; unidentified CM. before bust.
159. 14.06 g *Obv.*: unidentified CM. (animal?) before bust.
160. 14.06 g *Rev.*: CM. small laureate bust r. at bottom l.
161. 14.16 g *Obv.*: CM. 14 before bust.
162. 14.24 g *Obv.*: unidentified CM before bust.
163. 15.13 g *Obv.*: CM. 17 on neck.
164. 15.39 g *Obv.*: CM. 15 on head; CM. small head r. on neck.

## DISCUSSION

The hoard is composed of two basic types of coins. Class I consists of 136 Antiochene bronzes which can be divided into lightweight issues of less than 9 g (Class IA) and heavier issues (Class IB). Class II is composed of Roman dupondii of Tiberius minted at Commagene (*RIC* 1, no. 43). The distribution of weights of hoard specimens is presented in Figures 1 and 2. Also present was one bronze of Laodiceia ad Mare issued by either Domitian or Trajan. Four pieces are completely unidentifiable.

*Specimens**Specimens*

It is unclear when the coins were discovered, but this could have been within the past few years. The location of the find was somewhere in Syria and it is thought that the coins may have been contained in a pot uncovered by a farmer while plowing.

Of the 164 coins in the hoard, 91 are countermarked. A listing of major types is presented in Table 1. Excluding the small bust countermarks whose significance is not known, all countermark types but two are found *only* on the obverse. This predominance of obverse countermarks is not merely a chance occurrence. Many, if not most, ancient countermarks were applied according to specific rules of placement.<sup>3</sup> For example, countermark 16 is always carefully stamped upon the neck of the imperial portrait. The most notable exception to the general rule of uniform placement of countermarks in this hoard is type 9; while this issue of the Legio X Fretensis always appears on the obverse, it otherwise does not display any uniform positioning or alignment.

#### CITY COUNTERMARKS

The majority of countermarks in the hoard which can be attributed were issued by Roman legions. Three, however, appear to have been applied by cities. Countermark 16, Athena standing r., wearing crested helmet, holding spear, and resting l. hand on shield, is an issue of Antioch. This countermark is commonly found on coins of Antioch, but has not been noted on issues of any other city. Countermark 27, turreted bust of Tyche, is also probably an issue of Antioch, which made extensive use of this motif on its coins. Countermark 13, the character *mem*, is commonly found on coins of Gaza.<sup>4</sup>

<sup>3</sup> C. M. Kraay, "The Behavior of Early Imperial Countermarks," *Essays Mattingly*, pp. 113–16, provides an examination of the non-random placement of similar German legion countermarks.

<sup>4</sup> This countermark is also listed by M. Rosenberger, *Coinage of Eastern Palestine and Legionary Countermarks, Bar-Kochba Overstrucks* (Jerusalem, 1978), as no. 15 on a coin of Domitian from Antioch.

TABLE 1  
 Major Countermark Types

Type Description	Probable Issuer	Total
1. Monogram A(gustus) IMP(erator)?	Unspecified Legion	2
2. FVL	Legio XII Fulminata	11
3. KΛA	—	1
4. h (Incuse)	—	1
5. L III C	Legio III Cyrenaica	3
6. Π (Incuse)	—	1
7. PRO	Unspecified Legion	2
8. X	Legio X Fretensis	2
9. XF (numerous varieties of stamp)	Legio X Fretensis	8
10. XII	Legio XII Fulminata	16
11. LXII	Legio XII Fulminata	2
12. Three bent lines	—	1
13. Mem	Gaza	1
14. Lighted and garlanded altar (?) with two or three dots below	—	5

Type Description	Probable Issuer		Total
15. Helmet?	—	1	2
16. Athena standing r., wearing crested helmet, holding spear, resting l. hand on shield	Antioch	2	10
17. Bird eating berries from bush?	—	2	2
18. Facing bull head	Legio III Gallica	8	8
19. Winged caduceus and unidentified object	—	1	1
20. Lighted race torch	—	1	1
21. Thunderbolt	Legio XII Fulminata	2	3
22. Six-pointed star	—	1	1
23. Wreath	—	1	1
24. Unidentified symbol	—	1	1
25. Unidentified symbol	—	2	2
26. Unidentified monogram (five varieties)	—	4	5
27. Turreted bust of Tyche r.	Antioch	—	2
Various small unidentified busts	—	4	8
Unidentified	—	6	12
<i>Totals</i>		13	119

## LEGIONARY COUNTERMARKS

A number of types of hoard countermarks can be readily assigned to specific Roman legions. **FVLM** consists of the first letters of the cognomen of the Legio XII Fulminata. **L III C** was applied by the Legio III Cyrenaica.<sup>5</sup> **XF** was issued by the Legio X Fretensis. **XII** and **LXII** are both the marks of the Legio XII Fulminata, while countermark 21, the thunderbolt, is the symbol of this legion.<sup>6</sup> **PRO** is often found stamped on coins excavated from German legion camps and apparently means *probatum*, an indication the pieces on which it is found were approved for continued circulation. Two examples of the **PRO** countermark are present on hoard coins. This is noteworthy since previous finds of this countermark seem to have been limited to the German frontier. Both specimens on which **PRO** appears are stamped before the neck of the imperial portrait in a manner similar to the way such countermarks were applied in Germany.<sup>7</sup>

Two other countermarks are also apparently the work of legions, but the specific issuers of the marks are not at first obvious. Type 8 may variously be read as the numerals **IX**, **X**, or **XI**. This cannot be **IX** since the Legio IX Hispania was the only legion using that numeral during the period, never operated in the East, and was destroyed in Britain ca. A.D. 119. The mark might refer to the Legio XI Claudia or it may be a barred form of the numeral **X**, analogous to the **L III C** of the Legio III Cyrenaica; if this is the case, the mark could represent either **X Gemina** or the **X Fretensis**.

Overstruck countermarks are often important in establishing relative chronology. The nine coins with overstruck countermarks in this hoard are described in Table 2. The **XF** countermarks are generally quite worn, which might indicate they were applied earlier than the other countermarks. It can be concluded, however, that **FVLM** and **XF** were stamped

<sup>5</sup> W. Wruck, *Die Syrische Provinzialprägung von Augustus bis Trajan* (Stuttgart, 1931), p. 180, n. 28, reads this countermark as **L III G** and calls it an issue of the Legio III Gallica, but all three countermarks of this type in the hoard are clearly **L III C**.

<sup>6</sup> L. el. Kanitz, "Nomen Est Omen," *SAN*, vol. 6, no. 2 (1972-73), pp. 25-26, 34.

<sup>7</sup> Kraay (above, n. 3), pp. 128-29.

TABLE 2  
Overstruck Countermarks <sup>a</sup>

<i>Specimen</i>	<i>Second Countermark</i>	<i>Earlier Countermark</i>
15. Vespasian	FVLM (CM. 2)	XF (CM. 9)
87. Unassignable Emperor	XII (CM. 10)	Unidentified CM.
105. "	Unidentified small head	XF (CM. 9)
106. "	XF (CM. 9)	FVLM (CM. 2)
115. "	FVLM (CM. 2)	Π (CM. 6)
119. "	L III C (CM. 5)	Unidentified CM.
122. "	FVLM (CM. 2)	Monogram (CM. 26?)
129. "	Athena (CM. 16)	Monogram (CM. 1)
131. "	Wreath (CM. 23)	XF (CM. 9)

\* All overstruck countermarks are on coins of Class IB.

on coins during the same period since each mark appears stamped over the other on at least one hoard specimen. The fact that the FVLM type is generally better preserved than XF seems to be a result of the latter having been applied with shallow stamps.

The large number of legionary countermarks in the hoard, 60, and their variety, 10 basic types, suggest we should look for some major military expedition to explain why these coins were stamped. The problem of determining which legions issued the uncertain countermarks and when the coins were stamped can be solved only by examining the disposition of troops in the Roman East.<sup>8</sup> When did the various legions which could have issued these countermarks come into close geographical proximity and what circumstance might have caused them to validate worn bronze coins?

<sup>8</sup> For literary and archaeological evidence concerning the legions, the following works are useful: F. A. Lepper, *Trajan's Parthian War* (London, 1948); E. Luttwak, *The Grand Strategy of the Roman Empire* (Baltimore, 1976); H. M. D. Parker, *The Roman Legions* (New York, 1928); G. R. Watson, *The Roman Soldier* (Ithaca, 1969); Graham Webster, *The Roman Imperial Army* (London, 1969).

The only literary evidence which places a group of these legions in the same region at one point in time is provided by Josephus in his *History of the Jewish War*. That some of the legionary countermarks could have been applied during the First Jewish Revolt of A.D. 66 to 73 cannot be strictly discounted, but the evidence overwhelmingly points to the Parthian campaign of Trajan as the logical time when the countermarking took place. Assuming that any of these coins were stamped by legions at the time of the First Revolt presents two major problems. First, why are only coins of Antioch and Commagene found in this hoard and not Palestine city issues? Second, a hoard specimen of Vespasian bears both an FVLM countermark of the Legio XII Fulminata and an XF of the Legio X Fretensis. While it has been suggested that Roman legions sometimes countermarked coins during civil wars as a propaganda measure, both these legions supported Vespasian and thus propaganda cannot be advanced as a reason for stamping a coin of Vespasian. Since the legionary countermarks appear more or less indiscriminately on large Antiochene bronzes and Commagene dupondii, but not on small Antiochene bronzes, it appears likely that the countermarks are intended to indicate the coins which bore them met some minimum weight standard. Kraay has estimated that aes coinage would become so worn that it would have to be reconfirmed in order to remain in circulation some 30 to 50 years after its issue.<sup>9</sup>

Following the Jewish Revolt, the various legions which had been active in its suppression were geographically dispersed. The XII Fulminata retired to Melitene, Cappadocia; the III Gallica went to Raphanaea, Syria; the X Fretensis was stationed in Jerusalem; and the detachment of the III Cyrenaica which had come north from Egypt returned to that province. Location of Eastern legionary camps in the early part of the second century is much more speculative because of the relatively few literary sources available for that period. It seems likely, however, that most of the Eastern legions took part in the great Parthian campaign at the end of Trajan's reign.

It is significant that Trajan wintered in Antioch during the Parthian campaign since this means his troops would have had prolonged contact

<sup>9</sup> Kraay (above, n. 3), p. 131.

with that city's coinage. Two other legions whose countermarks are not found in this hoard, the VI Macedonia and the VI Ferrata, are also known to have stamped the bronze coins of Antioch.<sup>10</sup> Further, Hill thought that the fact the XV Apollinaris countermarked a coin of Arodus dated A.D. 115/16 was evidence that it too participated in the Parthian campaign.<sup>11</sup> Metcalf has recently shown that an unusual series of imperial aes of Trajan was the product of the Antioch mint during this period. A number of the type of coin Metcalf calls attention to are found with the same bull head countermark that appears on eight specimens in this hoard.<sup>12</sup> Therefore, the hoard's date of deposit must have been after Trajan's Parthian campaign.

The bull head was an emblem of both the III Gallica and the X Fretensis and countermark 18 would have been appropriate for either legion's use. During this period the III Gallica was stationed close to Antioch at Raphanaea, a city which issued no coins of its own until the time of Caracalla. An examination of known countermarks used by the X Fretensis in its home province of Judaea indicates that the bull head was not among them.<sup>13</sup> Since the X Fretensis did not countermark with the bull head in Judaea, countermark 18 is probably an issue of the III Gallica. The X Fretensis, however, is known to have stamped coins with a barred form of the numeral X,<sup>14</sup> the latest example that has

<sup>10</sup> See Wruck (above n. 5), p. 180, n. 28. Rosenberger (above n. 4), nos. 21, 22.

<sup>11</sup> *BMCPhoenicia*, p. xxxvi.

<sup>12</sup> W. E. Metcalf "A Note on Trajan's Latin Aes from Antioch," *ANSMN* 22 (1977), pp. 67-70.

<sup>13</sup> At least four types of countermarks were applied by the Legio X Fretensis to coins of Caesareia and Sebaste: XF; LXF; galley; boar walking r., LXF above, dolphin below. X is known from a coin of Ascalon reported in *BMCPhoenicia*, p. xxxvii; L · X is known from a coin of A.D. 72/3 reported by Rosenberger (above, n. 4), no. 23. For the only other general discussion of Roman legion countermarks issued in the East see D. Barag, "The Countermarks of *Legio Decima Fretensis*," *International Numismatic Convention, Jerusalem, 27-31 December 1963. Proceedings* (Tel Aviv/Jerusalem, 1967), pp. 117-25.

<sup>14</sup> D. W. Mac Dowall, "Two Roman Countermarks of A.D. 68," *NC* 1960, pp. 103-12, suggests that the Legio X Gemina also used the barred form X as a countermarking device during its activities in Pannonia.

been traced is on a bronze of Ascalon dated A.D. 110/11.<sup>15</sup> Countermark 8 is thus apparently to be read as X and was issued by the Legio X Fretensis.

The significance of this hoard lies in the large number of legionary countermarks which are present on its coins. Many of these countermarks were either previously unknown or had not been identified before as legionary issues. The hoard's deposit can be dated after the Parthian campaign at the end of Trajan's reign. These legionary countermarks and others not present in the hoard were applied at the time of that campaign when numerous legions wintered at Antioch. The stamps were intended to validate the very worn bronze coinage in circulation around the city.

<sup>15</sup> Rosenberger (above, n. 4), no. 11.

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## THE IANTINUM MINT

(PLATES 9-11)

PIERRE BASTIEN

The appearance of a new aureus bearing the mark **IAN** in the exergue of the reverse provides a good opportunity to reopen the question of the Iantinum mint. Does the mark **IAN** really correspond to the name Iantinum (now Meaux, a cathedral city in the department of Seine-et-Marne in France)? On what occasion and at what date did this possible mint function?

The recently discovered aureus can be described as follows:

1. *Obv.:* MAXIMIA NVS P AVG

Head of Maximian laureate, r.

*Rev.:* IOVI FVLG E RATORI IAN

Jupiter standing r., naked but for chlamys over l. arm and shoulder, hurling thunderbolt at kneeling anguipede raising r. hand.

5.46 ↑ (Plate 9, 1, 2 [enlarged 2×]).

Private coll.

If we look for coins bearing the same mark, we find that only four other aurei are known besides the specimen described above:

2. Similar to no. 1, different obv. die, same rev. die.

Florence, Museo Archeologico.<sup>1</sup>

5.45 (Plate 9, 3, [enlarged 2×]).

<sup>1</sup> K. Pink, "Die Goldprägung des Diocletianus und seiner Mitregenten (284 bis 305)," *NZ* 1931, p. 38.

3. *Obv.*: MAXIMIANVS P F AVG

Head of Maximian laureate, r.

*Rev.*: Same rev. as two preceding aurei.Paris, Cabinet des Médailles, stolen in 1831.<sup>2</sup>4. *Obv.*: DIOCLETIA NVS P AVG

Head of Diocletian laureate, r.

*Rev.*: VIRTVS AVGG IAN

Hercules lifting Antaeus to strangle him.

Paris, Cabinet des Médailles, no. 1586.

5.28 ↓<sup>3</sup> (Plate 9, 4).5. *Obv.*: Same obv. die as preceding specimen.*Rev.*: HERCVLI VICTORI IAN

Hercules seated facing on chair, skin of Nemean lion on his l. thigh; near him quiver and bow.

Paris, Cabinet des Médailles (Rothschild collection, no. 504).<sup>4</sup>

4.86 ↗ (Plate 9, 5).

This little group comprises four obverse dies (three of Maximian, one of Diocletian) and at least three reverse dies. In fact, we do not know whether the reverse die of specimen no. 3 differed from that of nos. 1 and 2. We are thus dealing with a limited issue, made in special circumstances. Curiously enough, this issue is not mentioned in *RIC* 5, 2, although several specimens were known at the time of its appearance. Similarly other pre-294 issues in gold, for lack of a good chronological classification, were not included in *RIC* 5 and later did not figure in *RIC* 6 either.

<sup>2</sup> H. Cohen, *Liste des médailloons et des médailles d'or qui ont été volés en 1831 au Cabinet des médailles et qui n'ont pas été remplacés jusqu'à nos jours* (Paris, 1863), no. 680; H. Cohen, *Description historique des monnaies frappées sous l'empire romain*, 6 (Paris, 1886), p. 531, no. 376; Pink (above, n. 1), p. 38.

<sup>3</sup> Pink (above, n. 1), p. 38; P. Le Gentilhomme, *Bulletin de la Société nationale des Antiquaires de France*, 1942, p. 85 (communication).

<sup>4</sup> J. Lafaurie, "Aureus inédit de Dioclétien frappé à Meaux," *BSFN* February 1948, p. 3.

In 1931 Pink attributed these aurei to Iantinum. He based his attribution on the text of Ptolemy *τῶν δὲ εἰρημένων ἀνατολικώτεροι Μέλδαι καὶ πόλις Ἰάτινος*<sup>5</sup> and on the interpretation of Holder, who sees in the form Iatinon, Iatinum, a dialectal variant of Iantinum.<sup>6</sup> The name, spelled correctly, is also found in the form of a patronymic, in an inscription.<sup>7</sup> This interpretation is, moreover, the generally accepted one.<sup>8</sup> Iantinum was the chief town of the civitas Meldorum, a name quoted before Ptolemy by Caesar, Strabo and Pliny, and frequently found in later texts.<sup>9</sup> From Meldi and its derivatives came the present name, Meaux. It should be noted, by the way, that the name of the town is given incorrectly in the Peutinger Table as Fixtuinum.<sup>10</sup> The existence of the city is attested by several inscriptions, one of which mentions the theater,<sup>11</sup> and by various archaeological discoveries.<sup>12</sup>

Iantinum was situated at a crossroads from which one road led to Augustomagus (Senlis) and Caesaromagus (Beauvais).<sup>13</sup> Thus from Iantinum one could easily reach northern Gaul. The hypothesis that a body of troops may have been quartered there is perfectly plausible

<sup>5</sup> Ptol., 2. 8. 11, 6–8, ed. O. Cuntz (Berlin, 1923), p. 51.

<sup>6</sup> A. Holder, *Alt-celtischer Sprachschatz*, 2nd ed., 2 (Graz, 1962), p. 14.

<sup>7</sup> *CIL* V. 4506.

<sup>8</sup> E. Desjardins, *Géographie historique et administrative de la Gaule romaine*, 2 (Paris, 1878), p. 473; *RE* 9, col. 695; E. de Ruggiero, *Dizionario Epigrafico*, 4 (Rome, 1942), p. 15; J. Moreau, *Dictionnaire de Géographie Historique de la Gaule et de la France* (Paris, 1972), p. 337; R. Chevallier, *Tabula Imperii Romani*, M 31 Paris (Paris, 1975), p. 122.

<sup>9</sup> Caes., *B.Gall.*, Meldis, 5. 5. 2, ed. L. A. Constans (Paris, 1955), p. 135; Strab., *Μέλδοι*, 4. 3 (C 194, M 266), ed. F. Sbordone (Rome, 1970), p. 138; Plin., Neldi for Meldi, *HN*, 4. 18. 107, ed. H. Rackham (Cambridge, Mass., 1942), p. 202; *Notitia Galliarum*, Civitas Meldorum, 4. 9, ed. O. Seeck (Berlin, 1876), p. 265; and Greg. Tur. *Hist. Franc.*, *Scriptores Rerum Merovingicarum*, ed. B. Krusch and W. Levison, 1 (Hannover, 1951), Meledus urbe, 5. 1, p. 195; Meldensem, 7. 4, p. 328; Meldensim terreturio, 7. 29, p. 347; comitatum Meldensim, 8. 18, p. 385; Meldus, 9. 20, p. 435; Meldensi, 9. 36, p. 457, etc.

<sup>10</sup> K. Miller, *Die Peutingersche Tafel* (Stuttgart, 1962), segment 2, 4.

<sup>11</sup> *CIL* XIII. 463, 3023, 3024, 3025.

<sup>12</sup> *Tabula Imperii Romani* (above, n. 8), p. 122.

<sup>13</sup> K. Miller, *Itineraria Romana* (Rome, 1964), p. 62, map 20; *Tabula Imperii Romani* (above, n. 8), map.

in the historical context of the years 289–93, the period when its coins were struck.

The abbreviation of Iantinum to Ian suggested by Pink has been generally accepted by the small number of scholars who have taken an interest in the problem. We have seen that this is the case with Le Gentilhomme and Lafaurie. In his basic work on Diocletian and the Tetrarchy, Seston also defends the Meaux mint.<sup>14</sup> Only Blanchet has raised objections, taking the view that it is a question of a travelling mint with an enigmatic mark.<sup>15</sup> But Blanchet does not produce any argument that would justify rejecting Pink's thesis, which personally I accept completely. The main difficulty is to date this gold issue which certainly corresponds, in its exceptional character, with a *donativum*.

The reverses present a problem. Those of Maximian represent Jupiter hurling a thunderbolt at an anguipede figure, with the legend IOVI FVL-GERATORI. As for those of Diocletian, the first shows an episode from the eleventh labor of Hercules, who is lifting up Antaeus to strangle him, preventing him from regaining strength by touching the ground; the legend is VIRTVS AVGG. The second reverse shows Hercules seated, with the skin of the Nemean lion, the quiver and the bow; the legend is HERCVLI VICTORI. As Seston has pointed out, the combination of reverses showing Jupiter with obverses of Maximian and of reverses showing Hercules with obverses of Diocletian is not the result of chance or of a mistake by the engravers, but reflects the wish to prove unity of thought and perfect understanding of the two co-rulers.<sup>16</sup> Identical reverses were struck at the Rome mint on various occasions, in several issues carefully studied by Pink, who places them within the period from 288 to 293.<sup>17</sup> The first has long obverse legends; the second, short ones with cuirassed busts with or without paludamentum; and the last combines short obverse legends with heads laureate right. This is the one closest to the Iantinum issue. In the second and in the last we observe the reverse

<sup>14</sup> W. Seston, *Dioclétien et la Tétrarchie* (Paris, 1946), p. 102.

<sup>15</sup> A. Blanchet, *BSFN* February 1948, p. 3 (communication). Many years ago A. Blanchet, "Monnaies romaines et byzantines inédites ou peu connues," *RN* 1893, p. 43, no. 5, pl. 1, attributed our specimen no. 4 to the mint of Antiochia.

<sup>16</sup> Seston (above n. 14), p. 102.

<sup>17</sup> Pink (above, n. 1), a) 2. Mit neuen Reversen and b) Mit kurzen Titeln, pp. 18–20.

**IOVI FVLGERATORI** correctly combined with an obverse of Diocletian (Plate 10, 6 and 7), and the reverse **HERCVLI VICTORI** combined with an obverse of Maximian (Plate 10, 8 and 9). But the Rome mint struck other reverses for Maximian, while the reverse of Hercules and Antaeus has not been found again among them. This last Rome issue, with heads laureate right and short obverse legends **DIOCLETIANVS** (or **MAXIMIANVS**) **P F AVG**, dates from 293. It must shortly precede the Iantinum issue.

Pink and Sutherland place the opening of the Trier mint and the start of its production of gold coins in 293. I have several times emphasized that it was necessary to bring forward the striking of the first Trier aurei and multiples marked **PT**<sup>18</sup> to the very end of 293 or rather to the beginning of 294. This issue comprises coins of the four tetrarchs and among them we find aurei of the same type as those of Iantinum: obverse **DIOCLETIANVS P F AVG**, head laureate right, reverse **IOVI FVLGERATORI PT**; and obverse **MAXIMIANVS P F** (or **P**) **AVG**, head laureate right, reverse **HERCVLI VICTORI PT**<sup>19</sup> (Plate 10, 10 and 11). And in the following issue, **PTR** of 295-96, the reverse **IOVI FVLGERATORI** is combined with obverses of Diocletian (Plate 10, 12), Maximian and Constantius,<sup>20</sup> and the reverse **HERCVLI VICTORI** with an obverse of Constantius.<sup>21</sup>

There is every possibility that the Iantinum issue preceded the establishment of the mint at Trier. If the Trier mint had already been operating there would have been no reason to open such a transitory additional mint. Thus the gold issue from Iantinum would follow the one using the same reverses at the Rome mint in 293 and precede the Trier issue of early 294.

The problem is to determine whether the Iantinum issue came before or after the creation of the first Tetrarchy on 1 March 293. The absence of aurei of Constantius and Galerius has no absolute value for dating. The number of coins known is so small that specimens with portraits of

<sup>18</sup> See most recently on this subject P. Bastien and C. Metzger, *Le trésor de Beau-rains (dit d'Arras)*, NR 10 (Wetteren, 1977), p. 88, n. 1.

<sup>19</sup> Pink (above, n. 1), pp. 30-31, *RIC* 6, Treveri 13 and 20.

<sup>20</sup> *RIC* 6, Treveri 56a, 56b and 57.

<sup>21</sup> *RIC* 6, Treveri 51.

the Caesars might still await discovery. It seems probable however, that the issue antedates 1 March 293. The striking of gold coins had been suspended at the Lyons mint since the spring of 286.<sup>22</sup> Gold currency for the payment of civil servants and military personnel therefore had to be imported from Italy. To remedy this situation, and in view of the creation of the Tetrarchy and the installation of a Caesar in Gaul, the decision to create a mint at Trier was taken and was implemented at the beginning of 294, after Constantius' victorious campaign against Carausius, the Chamavi and the Frisians in 293. A distribution of gold to the troops before the military operations began must have necessitated the opening of the temporary mint of Iantinum, the staff of which was subsequently to work at Trier. The analogies between the portraits and the coin types of Iantinum and Trier leave no doubt on this point.

Why Iantinum? Certainly because some of the troops were concentrated in this area. After Maximian's defeat by Carausius in 289, the re-organization of the army had to be carried out far away from Boulogne and from the North Sea coast, which was occupied by the usurper. We know that on 18 February 291 Maximian was at Durocortorum (Reims),<sup>23</sup> about ninety kilometers as the crow flies from Iantinum. The presence of the emperor in this town just after the meeting with Diocletian in Milan<sup>24</sup> can only signify a military inspection. The troops must therefore have been quartered and undergoing training in this area on the right bank of the Marne. These facts make it possible to confirm the existence of a mint at Meaux and to date its short issue of gold coins to the beginning of 293.

It is worth looking again at the three types of reverses used at Iantinum, two of which had been struck first in Rome and were subsequently to be struck at Trier. The legend IOVI FVLGERATORI appears in the coinage of the Rome mint on an antoninianus of Claudius II, abbreviated to IOVI FVLGERAT.<sup>25</sup> Under the Dyarchy it becomes more fre-

<sup>22</sup> P. Bastien, *Le Monnayage de l'atelier de Lyon. Dioclétien et ses corégents avant la réforme monétaire (285-294)*, NR 7 (Wetteren, 1972), pp. 79-81.

<sup>23</sup> Fr. Vat., 315, ed F. Girard and F. Senn, 1 (Paris, 1967), p. 539.

<sup>24</sup> Bastien (above, n. 22), p. 18.

<sup>25</sup> RIC 5, 1, Rome 51.

quent on aurelianiani of Diocletian<sup>26</sup> and Maximian,<sup>27</sup> and on a quinarius of Maximian.<sup>28</sup> On all these coins Jupiter is walking to the right holding a thunderbolt (Plate 10, 13), usually with an eagle in front of him (Plate 10, 14 and 15). The term *fulgurator* or *fulgerator* is a customary epithet for Jupiter in the aspect of thunderbolt hurler and has a more combative character than *propugnator* which is frequently employed in coin legends in the sense of protector and fighter. However, we possess a sestertius of Marcus Aurelius issued in 177 during the *Expeditio Germanica secunda* against the Marcomanni and Quadi, obverse M ANTONINVS AVG GERM SARM TR P XXXI, reverse PROPVGNATORI IMP VIII COS III P P S C,<sup>29</sup> the reverse of which portrays Jupiter, facing right, hurling a thunderbolt at an enemy lying in front of him (Plate 11, 16). The same scene was to be shown again in the Dyarchy's gold issues from Rome, Iantinum and Trier, but this time Jupiter hurls the thunderbolt at an anguipede. This anguipede is interpreted by Pink as a Titan, and by Cohen and Sutherland as a giant. The latter hypothesis is reasonable. Gigantomachies are the subjects of new portrayals in the Tetrarchic period, as we can see, for example, from a mosaic in the villa at Piazza Armerina.<sup>30</sup> But since a single anguipede figure is shown on all these coins it is legitimate to suppose that we are dealing with one particular giant, probably the last and most formidable of them, Typhoeus, whom Jupiter had a great deal of difficulty in defeating. And probably the fresh giant to be destroyed is none other than Carausius whose usurpation was particularly dangerous to the Dyarchs.<sup>31</sup> As we have seen,

<sup>26</sup> RIC 5, 2, Rome 167–68.

<sup>27</sup> RIC 5, 2, Rome 510–510a.

<sup>28</sup> RIC 5, 2, Rome 522.

<sup>29</sup> RIC 3, Rome 1224.

<sup>30</sup> W. Dorigo, *Late Roman Painting* (New York, 1971), pp. 144–48, figs. 108–9.

<sup>31</sup> One cannot fail to compare this reverse with that of the sesquisolidus of Constantius II struck at Milan in 352, after the reconquest of Italy from Magnentius: DEBELLATOR HOSTIVM SMMED, Constantius II on horseback right, raising his right hand and crushing a serpentine dragon, who can only represent Magnentius. Cf. O. Ulrich-Bansa, *Moneta Mediolanensis* (Milan, 1949), p. 8, pl. 1, 1. The vanquished adversary is a monster, like the one to be overcome on the reverses with IOVI FVLGERATORI. The Milan issue of gold, like that of Iantinum, is due entirely to special circumstances and was intended for a *donativum*. The Milan mint, closed by Aurelian in favor of Ticinum, was to be reopened by Valentinian I. Seeing that

there is no other example of the combination on a Roman coin of the legend IOVI FVLGERATORI with the scene of Jupiter hurling a thunderbolt at Typhoeus. The latter was depicted on various monuments of the sixth century B.C., among others the Chalcidian hydria in Munich (Plate 11, 17).<sup>32</sup> The only difference is that Typhoeus is there shown as winged, in accordance with the tradition,<sup>33</sup> whereas on the coins he is wingless. It is important to emphasize the resurrection on the coinage of these old themes from the story of Zeus at the end of the Dyarchy and at the beginning of the first Tetrarchy.

The reverse HERCVLI VICTORI, combined with Hercules seated facing on chair, with the skin of the Nemean lion on his left thigh and bow and quiver to his left, is also new. Earlier coinages, notably those of Commodus and Postumus, abound in reverses showing Hercules, but we do not find among them this particular portrayal, which, although static, conveys an impression of brute force.

The third reverse of Iantinum, in which the *virtus* of the Augusti is symbolized by Hercules suffocating Antaeus, does not seem to have been struck either in Rome or in Trier. But here we are dealing with a reverse which was already employed by Postumus in the Labors of Hercules series<sup>34</sup> and which we find with the same legend as at Iantinum, VIRTVS AVGG, on a quinarius of Maximian issued by the Lyons mint in 286.<sup>35</sup> I have already drawn attention to the fact that the archives of the Cologne mint must have been moved to Lyons by Aurelian and the designs reused by the engravers of this mint.<sup>36</sup> The reappearance of this reverse for the third time in Gaul would seem to prove that it was the craftsmen of the Lyons mint who worked at Iantinum before being transferred to the Trier mint.

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Constantius II had at his disposal in Italy the mints in Aquileia and Rome, which had struck gold coins under Magnentius, one might ask why the Milan mint was used again for such a brief period. The reason was probably the prolonged stay which the emperor made there until the offensive of July 353.

<sup>32</sup> F. Vian, *Répertoire des Gigantomachies figurées dans l'art grec et romain* (Paris, 1951), p. 9, no. 4, pl. 1.

<sup>33</sup> *Enciclopedia dell'Arte Antica, Classica e Orientale*, S.V. "Tifone" (Uggeri).

<sup>34</sup> P. Bastien, "Les travaux d'Hercule dans le monnayage de Postume," *RN* 1958, p. 67, pl. 6, 51 (rev. HERCVLI LIBYCO).

<sup>35</sup> Bastien (above, n. 22), p. 124, no. 47, pl. 3.

<sup>36</sup> Bastien (above, n. 22), pp. 36-37.

## KEY TO PLATES 9-11

*Coins*

1. Private collection: 5.46 ↑ .
2. Same coin, enlargement 2× .
3. Florence, Museo Archeologico: 5.45, enlargement 2× .
4. Cabinet des Médailles de Paris, no. 1586: 5.28 ↓ .
5. Cabinet des Médailles de Paris, Rothschild collection, no. 504 : 4.86 ↓ .
6. Cabinet des Médailles de Paris, no. 1577: 5.29 ↑ .
7. Vienna, Kunsthistorisches Museum, no. 23412: 5.37 ↓ .
8. Private collection: 6.01 ↓ .
9. Ex. E. T. Newell collection, Beaurains hoard, no. 153: 5.74.
10. Hispanic Society of America: 5.34 ↑ .
11. American Numismatic Society, Beaurains hoard, no. 200: 4.99 ↓ .
12. Vienna, Kunsthistorisches Museum, no. 23411: 5.38 ↓ .
13. Vienna, Kunsthistorisches Museum, no. 72495: 3.60 ↑ .
14. Cabinet des Médailles de Paris: 5.15 ↓ .
15. Vienna, Kunsthistorisches Museum, no. 23536: 3.55 ↓ .
16. Cabinet des Médailles de Paris, no. 2766: 22.58 ↑ .

*Hydria*

17. Staatliche Antikensammlungen und Glyptotek, Munich.



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## THREE SEVENTH-CENTURY BYZANTINE GOLD HOARDS

(PLATES 12-13)

WILLIAM E. METCALF

Despite the relative abundance of late sixth- and seventh-century Byzantine solidi, there are few hoards of these coins on record. This opportunity is therefore taken to record three hoards of the period. Of the three, only one is of particular interest, and there are the usual uncertainties regarding provenance and integrity; but it seems sure on the basis of internal evidence that there has at least been no contamination by addition of later material.

The author has seen only a few coins from any of the hoards. The record published here is based on notes made by Joan M. Fagerlie, formerly Curator of Roman and Byzantine Coins at the American Numismatic Society, and on photographs made by Michael Di Biase and Joseph Garcia. The coins were generously lent to the museum for study by Paul Z. Bedoukian.

### HOARD 1<sup>1</sup>

This hoard is said to have been discovered in the village of Afrus (Afrine) in February 1965.

<sup>1</sup> In the catalogues of this and the following hoards, *DOC* has been used as the principal work of reference, since it is more accessible and more suited to the purpose than Hahn (W. Hahn, *Moneta Imperii Byzantini*, 1 and 2, *Denkschriften der Österreichischen Akademie der Wissenschaften, Philosophisch-historische Klasse*, 1907-1911).

## JUSTINIAN I

*Obv.:* DNI VSTINI ANVSPPAVC

Helmeted cuirassed bust facing, holding in r. globus cruciger; on l. shoulder shield with horseman device.

*Rev.:* VICTORI AAVCCC followed by officina numeral.

Angel facing in tunic and pallium; in r., ♀; in l., globus. In r. field, star. In ex., CONOB

- |           |                                      |                     |
|-----------|--------------------------------------|---------------------|
| 1. 4.47 ↓ | Off. Α                               | DOC 1, 9a (545-565) |
| 2. 4.46 ↓ | Off. Θ Three pellets on breastplate. | 9i                  |
| 3. 4.38 ↓ | Off. I                               | 9j                  |

## JUSTIN II

*Obv.:* DNI VSTI NVSPPAVI

Helmeted cuirassed bust facing, holding in r. globus surmounted by crowning Victory; on l. shoulder shield with horseman device.

*Rev.:* VICTORI AAVCCC followed by officina numeral.

Constantinople seated looking r. with staff in r. and globus cruciger in l. In ex., CONOB

- |           |        |                     |
|-----------|--------|---------------------|
| 4. 4.50 ↓ | Off. Θ | DOC 1, 4h (565-578) |
|-----------|--------|---------------------|

## TIBERIUS II

*Obv.:* δMTIBCONS TANTPPAVI

Crowned cuirassed bust facing, holding in r. globus cruciger; on l. shoulder shield with horseman device.

*Rev.:* VICTORIAAVCC followed by officina numeral.

Cross potent on four steps. In ex., CONOB

reichischen Akademie der Wissenschaften, vols. 109 and 119 [Vienna, 1973 and 1975]). Where a variety is not recorded by Hahn, this is noted in the entry. The form "DOC 5-" indicates a coin of unrecorded officina of the main type of *DOC 5*. Coins marked with an asterisk are illustrated on Plates 12-13.

5. 4.45 ↓	Off. Ε	<i>DOC 1, 4e (579–582)</i>
6. 4.43 ↓	Off. Σ	4f
7. 4.40 ↓	Off. Σ	4f
8. 4.37 ↓	Off. Σ	4f

## MAURICE

*Obv.:* ONΜΑVRC TIBPPAVC

Helmeted cuirassed bust facing, holding in r. globus cruciger; over l. shoulder, paludamentum.

*Rev.:* VICTORI ΑΑVCC followed by officina numeral.

Angel facing in tunic and pallium holding in r. ♀ and in l. globus cruciger. In ex., CONOB

9. 4.48 ↓	Off. Α	<i>DOC 1, 5a (583–601)</i>
10. 4.44 ↓	Off. Β	5b
11. 4.41 ↓	Off. Β	5b
12. 4.27 ↓	Off. Δ	5d
13. 4.42 ↓	Off. Ε	5e
14. 4.31 ↓	Off. Σ	5f
15. 4.54 ↓	Off. Σ	5f
16. 4.49 ↓	Off. Σ	5f
17. 4.41 ↓	Off. Ζ	5g
18. 4.50 ↓	Off. Η	5h
19. 4.43 ↓	Off. Obscure.	5

*Obv.:* Similar.*Rev.:* Similar but in r. field, Κ

20.* 4.50 ↓	Off. Θ Hahn —.	<i>DOC 1, 6– (583–601)</i>
-------------	----------------	----------------------------

*Obv.:* Similar, but head much broader.*Rev.:* Similar to nos. 9–19.

21. 4.48 ↓	Off. Β	<i>DOC 1, 5b (583–601)</i>
22.* 4.45 ↓	Off. Β In field r., pellet. Hahn —.	—
23. 4.38 ↓	Off. Ε	5e
24. 4.39 ↓	Off. Ζ	5g
25. 4.45 ↓	Off. Η	5h
26. 4.32 ↓	Off. Θ	5i

PHOCAS

*Obj.: ONFOCAS PERPAVI*

Bust crowned, cuirassed with paludamentum; in r., globus cruciger.

*Rev.: VICTORI AAVCC* followed by officina numeral.

Angel facing in tunic and pallium holding in r. ♀ and in l. globus cruciger. In ex. CONOB



*Obv.:* Similar but  $\delta N$  for ON

*Rev.: VICTORIA AVS4 followed by officina numeral.*

### **Similar type.**

29. 4.48 ✓ Off. Θ                          *DOC 2, 1, 10i (607-610)*

TABLE I

### Frequency Table—Hoard 1

<i>Carats</i>	<i>Justinian I</i>	<i>Justin II</i>	<i>Tiberius II</i>	<i>Maurice</i>	<i>Phocas</i>	<i>Total</i>
23-1/2	2	1	1	8	3	15
23	1		3	7		11
22-1/2				3		3
22						
<i>Mean Wt.</i>	4.44	4.50	4.41	4.43	4.47	4.43

The date of deposit and loss can be fixed within fairly narrow limits, since the hoard contains no coins from the substantial first issue of Heraclius but does include a single example of the **VICTORIA AVΣΥ** issue of Phocas, which there are good grounds for assigning to 607 and after.<sup>2</sup>

As usual, most of the coins were struck during the quarter-century or so prior to deposit; the earlier coins of Justinian I and Justin II may owe their inclusion to their relatively high weights.

<sup>2</sup> The introduction of the VICTORIA AVS<sup>Y</sup> legend has been associated by Grierson (*DOC* 2, 1, p. 148) with Phocas' repudiation of the idea of collegiality; he has been followed by Hahn (vol. 2, p. 76) who also notes that 607 was a lustral year.

## HOARD 2

This hoard is said to have been discovered in the village of Daphne, 5 km from Antakya, in September 1965.

## MAURICE

*Obv.:* ON MAVRC TIBPPAVC

Helmeted cuirassed bust facing holding in r. globus cruciger; over l. shoulder, paludamentum.

*Rev.:* VICTORI AAVCC followed by officina numeral.

Angel facing in tunic and pallium, holding in r. and in l. globus cruciger. In ex., CONOB

- |                              |                     |
|------------------------------|---------------------|
| 1. 4.35 ↓ Off. S Large bust. | DOC 1, 5f (583–601) |
|------------------------------|---------------------|

## PHOCAS

*Obv.:* ONFOCAS PERPAVI

Bust crowned, cuirassed with paludamentum; in r., globus cruciger.

*Rev.:* VICTORI AAVCC followed by officina numeral.

Angel facing in tunic and pallium, holding in r. and in l. globus cruciger. In ex., CONOB

- |   |                        |
|---|------------------------|
| 2. 4.45 ↓ Off. B                                | DOC 2, 1, 5b (603–607) |
| 3. 4.42 ↓ Off. Γ Same obv. die as no. 7.        | 5c                     |
| 4. 4.46 ↓ Off. S Same obv. die as no. 6.        | 5f                     |
| 5. 4.40 ↓ Off. S                                | 5f                     |
| 6. 4.34 ↓ Off. S Same obv. die as no. 4.        | 5f                     |
| 7. 4.42 ↓ Off. Obscure. Same obv. die as no. 3. | 5                      |

*Obv.:* Similar but δN for ON

*Rev.:* VICTORI AAVSV followed by officina numeral.  
Similar type.

- |                   |                         |
|-------------------|-------------------------|
| 8. 4.44 ↓ Off. Ε  | DOC 2, 1, 10e (607–610) |
| 9. 4.43 ↓ Off. Ε  | 10e                     |
| 10. 4.45 ↓ Off. S | 10f                     |
| 11. 4.44 ↓ Off. S | 10f                     |

12.	4.44 ↓	Off. Z	10g
13.	4.41 ↓	Off. Z	10g
14.	4.39 ↓	Off. Z	10g
15.	4.33 ↓	Off. Z	10g
16.	4.31 ↓	Off. H	10h
17.	4.44 ↓	Off. Θ	10i
18.	4.41 ↓	Off. Θ	10i
19.	4.51 ↓	Off. I	10j
20.	4.41 ↓	Off. I	10j
21.	4.25 ↓	Off. I	10j

*Obv.:* Similar but δΝΝ for δΝ

*Rev.:* Similar.

22.	4.48 ↓	Off. €	DOC 2, 1, 10e. 6–7
23.	4.42 ↓	Off. €	10e. 6–7
24.	4.43 ↓	Off. I	10j. 6–7

### HERACLIUS

*Obv.:* δδΝΝhΕRACLΙΨΕΖ hΕRACONSΖPPAVC

To l., bust of Heraclius with short beard wearing chlamys and crown with cross; to r., similar bust of Heraclius Constantine, beardless. Above, cross.<sup>3</sup>

*Rev.:* VICTORIA ΑVΓΥ followed by officina numeral.

Cross potent on base and three steps. In ex., CONOB

25.	4.45 ↓	Off. Α	DOC 2, 1, 13a (613–ca.625)
26.	4.46 ↓	Off. Δ Same obv. die as no. 36.	13a
27.	4.41 ↓	Off. Δ	13d
28.*	4.54 ↓	Off. € Rev. legend IVCTORIA; in ex. CONOB	13d var.

### CONOB

<sup>3</sup> The problems in classifying the large series of solidi of Heraclius and Heraclius Constantine have not yet been wholly solved; the latest discussion is that of Grierson in *DOC 2, 1*, pp. 221–23. I am not convinced that the distinction between “simple” and “elaborate” crowns has any chronological significance, and have not made it in ordering the catalogue, although appropriate *DOC* references are given. The distinction between small and large busts of Heraclius Constantine has been made, however, and the catalogue is arranged accordingly.

29.	4.48 ↓	Off. €	13d
30.	4.45 ↓	Off. €	13d
31.	4.36 ↓	Off. € More elaborate crown.	8e
32.	4.50 ↓	Off. S	13e
33.	4.46 ↓	Off. S	13e
34.	4.45 ↓	Off. S Same obv. die as no. 39.	13e
35.	4.42 ↓	Off. Z	13f
36.	4.49 ↓	Off. H Same obv. die as no. 26.	13g
37.	4.35 ↓	Off. H	13g
38.	4.48 ↓	Off. Θ	13h
39.	4.32 ↓	Off. Θ Same obv. die as no. 34.	13h
40.	4.45 ↓	Off. Obscure.	13

*Obv.:* Similar.

*Rev.:* Similar but Θ after officina numeral.

41.	4.41 ↓	Off. I	DOC 2, 1, 17b
-----	--------	--------	---------------

*Obv.:* Similar.

*Rev.:* Similar to nos. 25–40, but in r. field, letter or numeral.

42.*	4.42 ↓	Off. € To r., Θ	DOC 2, 1 —
------	--------	-----------------	------------

43*	4.41 ↓	Off. € To r., I	—
-----	--------	-----------------	---

*Obv.:* Similar but larger bust of Heraclius Constantine.

*Rev.:* Similar to nos. 25–40.

44.	4.52 ↓	Off. A Same obv. die as no. 45.	DOC 2, 1, 20a (ca. 626–629)
-----	--------	---------------------------------	-----------------------------

45.	4.47 ↓	Off. A Same obv. die as no. 44.	20a
-----	--------	---------------------------------	-----

46.*	4.45 ↓	Off. H	20—
------	--------	--------	-----

47.*	4.33 ↓	Off. H	20—
------	--------	--------	-----

*Obv.:* Similar.

*Rev.:* Similar, but additional letter or numeral at end of inscription.

48.	4.43 ↓	At end, IΘ	DOC 2, 1, 22c (ca. 626–629)
-----	--------	------------	-----------------------------

49.	4.53 ↓	At end, IK	24
-----	--------	------------	----

*Obv.:* ddNNhΕRACLΙΨΕΣΖhΕRACONSPPAVC

To l., bust of Heraclius with long beard and whiskers wearing chlamys and crown with cross; to r., similar

bust of Heraclius Constantine with slight beard and moustache. Above, cross.

*Rev.:* VICTORIA ΑΥΓΥ followed by officina numeral.

Cross potent on base and three steps. In ex., CONOB

- |                   |   |
|-------------------|---|
| 50. 4.53 ↓ Off. Α | Same obv. die as no. 54. <i>DOC</i> 2, 1, 26a (629–631) |
| 51. 4.45 ↓ Off. Σ | <i>DOC</i> 2, 1, 26g var.                               |
| 52. 4.54 ↓ Off. Ι | 26j   |
| 53. 4.48 ↓ Off. Ι | 26j   |
| 54. 4.45 ↓ Off. Ι | Same obv. die as no. 50. 26j                            |

*Obv.:* No inscription. In center, Heraclius with moustache and long beard; on r., Heraclius Constantine, beardless; on l., much smaller, Heraclonas. Each wears chlamys and holds globus cruciger; Heraclius and Heraclius Constantine wear crowns with crosses, Heraclonas a cap, above which a cross.

*Rev.:* VICTORIA ΑΥΓΥ followed by officina numeral. Cross potent on base and three steps. In field r., Λ. In ex., CONOB

- |                    |                                      |
|--------------------|--------------------------------------|
| 55. 4.49 ↓ Off. Α  | <i>DOC</i> 2, 1, 33a var (632–635 ?) |
| 56.* 4.50 ↓ Off. Γ | 33–                                  |

## CONSTANS II

*Obv.:* δΝCΩΝΣΑΝΖΙΝΗΣΡΡΑV

Bust of Constans II with long beard and moustache, wearing chlamys and crown with cross on circlet. In r., globus cruciger.

*Rev.:* VICTORIA ΑΥΓΥ followed by officina numeral.

Cross potent on base and three steps. In ex., CONOB

- |                   |                                |
|-------------------|--------------------------------|
| 57. 4.45 ↓ Off. Α | <i>DOC</i> 2, 2, 19a (651–654) |
| 58. 4.47 ↓ Off. Γ | 19c                            |
| 59. 4.47 ↓ Off. S | 19f                            |

*Obv.:* δΝΑΖΙΝΗΣΡΡΑΝΖΙΝΗΣCΩΝΣΑΝΖΙΝΗ

To l., bust of Constans II with long beard and moustache; to r., bust of Constantine IV, beardless. Each wears

chlamys and crown with cross on circlet. Between heads, cross.

*Rev.:* Similar.

- |                   |                                |
|-------------------|--------------------------------|
| 60. 4.35 ↓ Off. Δ | <i>DOC 2, 2, 25d (654–659)</i> |
| 61. 4.38 ↓ Off. Ε | 25e                            |

*Obv.*  $\nabla$  VCON ST[

Similar, but plume behind crown of Constans II.

*Rev.:* VICTORI A A VΣΥ followed by officina numeral.

Long cross potent on base and three steps. To l., Heraclius; to r., Tiberius standing, both beardless; each wears chlamys and crown with cross, and holds globus cruciger. In ex. CONOB

- |                           |                                    |
|---------------------------|------------------------------------|
| 62.* 4.39 ↓ Off. obscure. | <i>DOC 2, 2, 28– (659–ca. 661)</i> |
|---------------------------|------------------------------------|

#### Semissis

*Obv.:* δΝCΟNSΖΑN-ΖINΨPPΑV

Bust of Constans II r. wearing cuirass and paludamentum.

*Rev.:* VICTORIAA VΣΥS

Cross potent on globe.

- |            |                               |
|------------|-------------------------------|
| 63. 2.18 ↓ | <i>DOC 2, 2, 44 (641–668)</i> |
|------------|-------------------------------|

#### CONSTANTINE IV

*Obv.:* Variable legend. Bust of Constantine IV 3/4 facing, wearing cuirass and helmet with plume and diadem with ties to l.; in r., spear held behind head; on l. shoulder, shield with horseman device.

*Rev.:* VICTOA A VΣΥ followed by officina numeral.

Cross potent on base and three steps. To l., Heraclius; to r., Tiberius. Each wears chlamys and crown with cross, and holds globus cruciger. In ex., CONOB

- |   |                                |
|---|--------------------------------|
| 64. 4.42 ↓ Off. I Obv. DNCOST-N-VΨSP,<br>crest on helmet. | <i>DOC 2, 2, 10– (674–681)</i> |
| 65. 4.30 ↓ Off. Obscure. Obv. DNCON-A-NΨSP                | 8                              |

## IMITATION

*Obv.:* Illegible inscription. ΕΖ at 12:00.

To l., bust (of Heraclius) with long beard and whiskers wearing chlamys and crown with vertical upright; to r., similar bust (of Heraclius Constantine) with slight beard and moustache.

*Rev.:* VICTORIA ΔΥΣΤΟ

Modified cross on base and three steps. In ex., CONOB

66.\* 4.44 ↴

TABLE 2

Frequency Table—Hoard 2

Carats	Maurice	Phocas	Heraclius	Constans II	Constantine IV	Total
23-1/2		5	21	3		29
23		14	8	2	1	25
22-1/2	1	3	3	1	1	9
22		1				1
<hr/>						
Mean Wt.	4.35	4.41	4.45	4.42	4.36	4.43

In her discussion of the Nikertai hoard, Morrisson<sup>4</sup> drew attention to the generally light weights of older solidi in post-conquest hoards of Syria and Palestine, and explained, "Bien que la monnaie byzantine continue de pénétrer en territoire arabe après la conquête, ainsi qu'en témoigne ce trésor composé pour près de moitié de monnaies postérieures à 636, celles-ci n'arrivaient vraisemblablement pas en quantités suffisantes pour approvisionner la circulation au même rythme qu'auparavant. Pour compenser cette insuffisance de la masse monétaire, la vitesse de circulation augmente nécessairement et, par conséquent, l'usure des

<sup>4</sup> C. Morrisson, "Le trésor byzantin de Nikertai," *RBN* 1972, pp. 29–91, esp. p. 58.

pièces." On the other hand, the relatively light weights of coins of Constantine IV she explained as a product of conscious Byzantine monetary policy.

The latter of these two hypotheses is borne out by the post-Heraclian coins in the hoard, which certainly are not up to snuff metrologically. But the Heraclian coins show a clear mode at 23½–24 carats. If, in spite of the limited numbers involved, this hoard may be regarded as an exception to Morrisson's rule, an explanation may be sought in "re-hoarding"—the combination in antiquity of two separate and unrelated lots of material.

As the Nikertai hoard with its preponderance of post-Heraclian solidi shows, the flow of solidi into Syria was not cut off by the Arab conquest; that hoard contains representatives of all the major issues following the conquest right up to the moment of its deposit and loss. Our hoard is quite different: coins of Constans II through 651–54 are entirely lacking, and the total of only seven coins of Constans (one a semissis) and two of Constantine IV is extremely low for a hoard that cannot have been deposited before 674 at the earliest. In fact, if one removes from consideration these last nine coins, what remains is an assemblage which would be perfectly reasonable in the last years of Heraclius, the more plausible as the number of die-linked coins of the reigns of Phocas and Heraclius is high in proportion to their total numbers, and far higher than one would expect from any randomly assembled group. Perhaps, then, the coins of Constans II and Constantine IV were added to a much earlier lot of material brought together in the late 630s or early 640s.

This much is merely speculation, although it would account for the structural and metrological anomalies observed in the hoard. Whatever the history of the coins prior to their deposit and loss, that loss can be dated with some confidence to the middle years of the reign of Constantine IV: the two latest pieces fall in the issue now dated 674–81. His last issue in fine style is common enough today, as are the first issues of Justinian II, and if the hoard was put down any later than ca. 680 we would expect any or all of these to be represented in it.

The date of the hoard has an obvious bearing on the date of no. 66, and perhaps of other imitations of Byzantine gold. This was seen by

Miles, who first published the coin and knew its provenance. With Grierson and Walker and against Lafaurie, he inclined to the "low" chronology for these imitations.<sup>5</sup> The Standing Caliph type (Miles's Class C, of 74 H./A.D. 693/4 and after) provides the terminus ante quem. Miles's Class B consists of what Walker described as "de-Christianized" standing figures on the obverse, with reverse "pillar" surmounted by globe on steps and the Muslim declaration of faith. Miles, rejecting the arguments of Lafaurie for a much earlier dating, agreed with Walker that "these pieces in all probability were struck a year or two before" 74 H./A.D. 693/4. He compared the transformation of Christian symbols on Greek-legends imitations of Phocas and Heraclius (his Class A, including our no. 66) to that on his Classes B and C<sup>6</sup> (the Arabic-legends imitations and the Standing Caliph types), and suggested that "the idea of omitting or transforming the Christian symbols . . . did not occur to the Arabs until just before the events leading up to the issuance of Classes B and C and the final elimination of iconography in 77 H./A.D. 696/7." With respect to the chronology of the Class A imitations, he concluded, "I will venture to say only that they are to be dated in the decade before 691 and probably closer to 690 than to 680."

To reconcile this conclusion with the evidence of the present hoard one would have to suppose that no. 66 is the very latest coin in it, and posit a gap of nearly a decade between the latest Byzantine issues and the

<sup>5</sup> The fundamental discussion is that of G. C. Miles, "The Earliest Arab Gold Coinage," *ANSMN* 13 (1967), pp. 205–29, esp. pp. 225–27; he quotes extensively from correspondence with Grierson. See also P. Grierson, "The Monetary Reforms of 'Abd al-Malik. Their Metrological Basis and their Financial Repercussions," *JESHO* 3 (1960), pp. 241–64; and J. Walker, *A Catalogue of the Arab-Byzantine and Post-Reform Umayyad Coins* (sc. in the British Museum) (London, 1956), pp. v–vi, xxiv–xxv, p. 18, no. 54, and the note to no. B.2. No one has followed Lafaurie's arguments for early dating of the imitations: J. Lafaurie, "Trois nouvelles pièces de la trouvaille Buis (com. Chissey-en-Movran, Saône-et-Loire)," *BSFN* April 1959, pp. 295–97; "Les routes commerciales indiquées par les trésors et trouvailles monétaires mérovingiens," *Moneta e scambi nell' alto medioevo*, Settimane di studio del Centro Italiano di studi sull'alto medioevo, 8 (Spoleto, 1961) pp. 231–78, esp. 253; and "Imitation d'un solidus de Phocas frappée par les Sassanides," *BSFN* December 1964, pp. 411–15.

<sup>6</sup> Coins of Miles's Classes A and B, and their prototypes, are conveniently illustrated on his plate 45.

imitation.<sup>7</sup> Such a construct is certainly not impossible, but neither is it necessary.

There are two elements which are common to the Greek-legends imitations of Miles's Class A and the Arabic-legends ones of his Class B: maintenance of the solidus standard (which would indeed continue into the Standing Caliph series) and the transformation of Christian symbols. It seems to me that in the establishment of the very tight chronology of Classes A and B inordinate stress has been laid on the latter phenomenon, for there are several equally important features which distinguish the two classes.

*Language* On all coins of Class A, Greek legends are retained, not always very successfully; Classes B and later employ Arabic legends.

*Iconography* Classes A and B share the elimination of Christian symbols, but not the manner of eliminating them. For example, on the obverses of all the Class A imitations, the crosses, whether on crown or globus, have been turned into staves by the removal of the crossbar. On Class B obverses, all decoration is removed from the crowns, and one cannot do better than quote Miles (p. 210) with respect to the orbs: "they have been converted into a sort of knob terminating the vertical line, in origin the edge of the imperial robe but now giving the impression of a staff, even though the vertical line does in fact join the bottom hem of the robe." Again, on the Class A reverse of Phocas the transverse bar of the chrismon and of the cross on globus has simply been omitted. On the remaining coins of this class, while the crossbar has been removed, the vertical element of the cross potent remains intact. On coins of Classes B and C, a globus surmounts the upright.

<sup>7</sup> The coin might well be one of the latest elements in the hoard; its extremely fine condition is most clearly evident from the reverse. In view of the rarity of these coins today it is worth pointing out that the obverse die had seen heavy use and was beginning to deteriorate badly when this coin was struck: there are prominent die breaks in the face and beard of Heraclius and on the face of Heraclius Constantine; other breaks join Heraclius' head to the encircling "legend."

*Homogeneity* Miles knew eight examples of his Class B.<sup>8</sup> all are of identical type, and indeed only two obverse and three reverse dies are known. By contrast, his Class A consists of five coins which imitate four different prototypes. Not only are no die links known, but the obverse dies display a broad range of style and literacy.

*Authority for issue* The uneven style and literacy and the elimination of Christian symbols prove that the coins of Class A are not of Byzantine utterance; there is in fact no indication of the authority behind their issue, which must be inferred from the very fact of the altered types. In contrast Classes B and later proclaim their Arab and Muslim character through both language and content. Class A coins were clearly intended to pass as Byzantine solidi; the coins of Class B abandon any attempt at this kind of deception, even though their types and weight standard are derivative.

Logically, and in terms of relative chronology, Miles's account of the earliest Arab gold coinage is sound. But in view of the many differences between the coins of his Class A and those of subsequent classes, one may doubt whether it is proper to formulate the absolute chronology of these issues solely in terms of "the idea of omitting the Christian symbols occurring to the Arabs," unless we specify *what* Arabs: the caliph himself, or one of his agents, or simply private individuals striking imitative coins which reflected their religious convictions?

Certainly Classes B-D can hardly be anything but official products: if the idea of placing on an imitative coin the Muslim declaration of faith and of transforming the Christian symbols seems obvious enough, it could hardly have been carried out with such consistency and skill except by an organized minting entity; nor could the circulation of such novel coins have been enforced except by a legitimate authority. But Class A is quite a different matter. As we have noted, the five known coins imitate four different prototypes; no doubt the prototypes were selected because they were common in the currency of the day, and thus

<sup>8</sup> Miles, p. 210, n. 16, quotes a ninth example in the collection of Mr. Bedoukian. This piece and several others from the same dies which have subsequently come to light are now regarded as modern forgeries. See *Bulletin on Counterfeits* 2, 3 (Sept. 1977), p. 68, no. 3b.

the coins were the more likely to be acceptable despite the slight modifications of the types. But can we really conceive of an Arab mint official ordering up a batch of Phocas, and three more batches imitating different types of Heraclius, then almost immediately abandoning this practice and settling upon the single three-figure obverse type of Heraclius (in, it should be noted, a style quite different from that of the analogous coins of Class A)?

I suggest that the coins of Miles's Class A are far more closely linked to the Byzantine coinage which preceded than to the "Arab-Byzantine" and purely Arabic coinage which followed; and that there is no evidence to suggest that they are anything other than private efforts which may or may not be associated with one another in time and place.<sup>9</sup> If this is so, Miles's Classes B-D provide no more than an *ante quem*, and the termini for any individual Greek-legends imitation have to be provided by its prototype and its context, if any. In the case of our no. 66, the *post quem* is ca. 629–31, when coins of the type were produced at Constantinople; and the *ante quem* ca. 681, the latest possible date for the Byzantine elements in the hoard. The coin, as has been noted, is extremely fresh, and if that is anything to go by the piece should be dated to the decade or so after 670.

<sup>9</sup> An analogue for such an unofficial coinage may be found in the copper imitations of folles of Heraclius and Constans II which are commonly found in Syria and Palestine, and which must have been produced between the Byzantine loss of Syria and the introduction of the Arab coinage proper. The obverses are fairly faithful in rendering the types, although the legends (when present) are usually gibberish; the reverses capture more or less successfully the mark of denomination, but subsidiary elements (date, officina numeral, arbitrary markings) are almost always blundered, altered or anomalously combined. The variants are almost as numerous as the coins themselves, and there is no unifying element which would suggest that they were the product of any legitimate minting authority or any single mint or group of mints. Presumably they reflect a need for small change which was met by private or unofficial minting: copper flans were simply struck with something like the familiar type and passed into currency. For examples of this underpublished coinage, see A. S. Kirkbride, "Coins of the Byzantine-Arab Transition Period," *Quarterly of the Department of Antiquities in Palestine* 13 (1948), pp. 59–63; and D. M. Metcalf, "Some Byzantine and Arab-Byzantine Coins from Palestina Prima," *INJ* 2, 3–4 (1964) pp. 32–41.

## HOARD 3

This hoard is said to have been discovered near Damascus in late 1964 or early 1965.

## MAURICE

*Obv.:* ONΜΑVRC TΙbPPΑVC

Helmeted cuirassed bust facing holding in r. globus cruciger; over l. shoulder, paludamentum.

*Rev.:* VICTORI ΑΑVCC followed by officina numeral.

Angel facing in tunic and pallium holding in r. ♀ and in l. globus cruciger. In ex., CONOB

1. 4.22 ↓ Off. Δ

DOC 1, 5d (583-601)

## PHOCAS

*Obv.:* ONFOCAS PΕRPAVI

Bust crowned, cuirassed with paludamentum; in r. globus cruciger.

*Rev.:* VICTORI ΑΑVCC followed by officina numeral.

Angel facing in tunic and pallium holding in r. and in l. globus cruciger. In ex., CONOB

2. 4.20 ↓ Off. Γ

DOC 2, 1, 5c (603-607)

3.\* 4.18 ↓ Off. Ζ Legend begins DN-

—

*Obv.:* Similar but δN for ON

*Rev.:* VICTORI ΑΑVΣΨ followed by officina numeral.

Similar type.

4. 4.31 ↓ Off. Β

DOC 2, 1, 10b (607-610)

5. 4.39 ↓ Off. Ι

10j

## HERACLIUS

*Obv.:* ΟΝhΕRΑCLI ΨSPPAVI

Bust with short beard wearing cuirass, paludamentum, and crown with pendilia and cross on circlet, behind which is a plume. In r., cross.

*Rev.:* VICTORIA ΑΥΓΥ followed by officina numeral.

Cross potent on base and three steps. In ex., CONOB

6. 4.28 ↓ Off. € *DOC 2, 1, 3b (610–613)*

*Obv.:* ddNNhΕRACLIΨEΣhΕRACONSΣPPAVC

To l., bust of Heraclius with short beard wearing chlamys and crown with cross; to r., similar bust of Heraclius Constantine, beardless. Above, cross.

*Rev.:* VICTORIA ΑΥΓΥ followed by officina numeral.

Cross potent on base and three steps. In ex., CONOB

- 7.\* 4.29 ↓ Off. Δ *DOC 2, 1, 13– (613–ca. 625)*

- 8.\* 4.24 ↓ Off. I *13i var.*

*Obv.:* Similar.

*Rev.:* Similar, but in r. field, letter or numeral.

- 9.\* 4.39 ↓ Off. € To r., I *DOC 2, 1, —*

*Obv.:* Similar, but larger bust of Heraclius Constantine.

*Rev.:* Similar.

10. 4.28 ↓ Off. Γ To r., K *DOC 2, 1, 23b (ca. 626–629)*

*Obv.:* Similar.

*Rev.:* Similar to nos. 7–8, but additional letter or numeral at end of inscription.

11. 4.31 ↓ At end, IΘ *DOC 2, 1, 22c (ca. 626–629)*

*Obv.:* ddNNhΕRACLIΨEΣhΕRACONSPPAVC

To l., bust of Heraclius with long beard and whiskers wearing chlamys and crown with cross; to r., similar bust of Heraclius Constantine with slight beard and moustache. Above, cross.

*Rev.:* VICTORIA ΑΥΓΥ followed by officina numeral.

Cross potent on base and three steps. In ex., CONOB

12. 4.25 ↓ Off. A *DOC 2, 1, 26a (629–ca. 631)*

*Obv.:* No Inscription. In center, Heraclius with moustache and long beard; on r. Heraclius Constantine, beardless; on l., much smaller, Heraclonas. Each wears chlamys and holds globus cruciger; Heraclius and Heraclius Constantine wear crowns with crosses, Heraclonas a cap, above which a cross.

*Rev.:* VICTORIA ΑΥΓΥ followed by officina numeral.

Cross potent on base and three steps. In field r., ♀; in ex., CONOB

13. 4.29 ↓ Off. B *DOC* 2, 1, 33b (632–635)

*Obv.:* Similar, but Heraclonas larger. Cross still detached.

*Rev.:* Similar.

- 14.\* 4.25 ↓ Off. Z *DOC* 2, 1, 34– (635/6)

*Obv.:* Similar, but Heraclonas crowned, and no cross in field.

*Rev.:* Similar, but ♀ in field l.

15. 4.33 ↓ Off. B *DOC* 2, 1, 43a (639–641)

16. 4.24 ↓ Off. Γ 43b

17. 4.28 ↓ Off. Ε 43d

18. 4.27 ↓ Off. Ε 43d

19. 4.20 ↓ Off. Ε 43d

20. 4.20 ↓ Off. Ε 43d

21. 4.27 ↓ Off. Obscure. 43

*Obv.:* Similar.

*Rev.:* Similar, but Ε in field r.

- 22.\* 4.44 ↓ Off. Ε *DOC*, 2, 1 44– (639–641)

23. 4.29 ↓ Off. H 44f

24.\* 4.40 ↓ Off. Θ 44–

## CONSTANS II

*Obv.:* δΝCΟNSΖΑΝ ΖΙΝΨΡΡΑV

Bust of Constans II facing, beardless, wearing chlamys and crown with cross on circlet. In r., globus cruciger.

*Rev.:* VICTORIA ΑΥΓΥ followed by officina numeral.

Cross potent on base and three steps. In ex., CONOBC

25. 4.36 ↓ Off. B *DOC* 2, 2, 1a (641–646)

*Obv.:* Similar.

*Rev.:* Similar, but in ex., CONOBC

- 26.\* 4.27 ↓ Off. I *DOC* 2, 2, 2– (641–646)

*Obv.:* Similar, but Constans with short beard.

*Rev.:* Similar to no. 25.

- 27.\* 4.21 ↓ Off. Α *DOC 2, 2, 16-* (650/651)  
 28. 4.38 ↓ Off. Σ 16c

*Obv.:* Similar.  
*Rev.:* Similar, but in ex., CONOB+

29. 4.34 ↓ Off. Σ *DOC 2, 2, 17b* (650/651)

*Obv.:* Similar, but bust with long beard.  
*Rev.:* Similar to no. 25.

30. 4.33 ↓ Off. Γ *DOC 2, 2, 19c* (651–654)  
 31. 4.31 ↓ Off. Η 19h  
 32. 4.24 ↓ Off. Θ 19i

*Obv.:* Similar.  
*Rev.:* Similar, but in field r., \*

33. 4.27 ↓ Off. Ε *DOC 2, 2, 22c* (651–654)  
 34. 4.24 ↓ Off. Ε 22c  
 35.\* 4.19 ↓ Off. Η 22–  
 36. 4.22 ↓ Off. Ι 22f

*Obv.:* Variable legend. To l., bust of Constans II with long beard and moustache; to r., bust of Constantine IV, beardless. Each wears chlamys and crown with cross on circlet. Between heads, cross.  
*Rev.:* VICTORIA ΑΥΣΤΡΙ followed by officina numeral. Cross potent on base and three steps. In ex., CONOB or variant.

37.\* 4.27 ↓ Off. Β In ex., CONOBI Obv. ]ΝΥCCCΟΝ SZΑΝΖΙ  
 ΝΥC *DOC 2, 2, 26-* (654–659)  
 38. 4.40 ↓ Off. Ε Obv. δΝCΟNSΑ[ ΖΑ] CCONΣΖΑ 25e  
 39. 4.33 ↓ Off. Σ Obv. δΝCΟNSΑΝΖΑΝΖΑΝΖΑ CCONΣΖΑ 25f  
 40. 4.44 | Off. Obscure. Obv. δΝCΟNΙ (double struck) 25

*Obv.:* Variable legend; similar type, but plume behind crown  
of Constanſ.

Rep.: VICTORIA A V54 followed by officina numeral.

Long cross potent on base and three steps. To l., Heraclius; to r., Tiberius standing; both beardless; each wears

chlamys and crown with cross and holds globus cruciger.  
In ex., CONOB

- |  |                                |
|--|--------------------------------|
| 41.* 4.31 ↓ Off. Α Obv. legend off-flan. | <i>DOC 2, 2, 28-</i> (659-661) |
| 42. 4.44 ↓ Off. Β or Θ Obv. δΝΙ[         | 28                             |

#### CONSTANTINE IV

*Obv.:* Variable legend. Bust of Constantine IV 3/4 facing, wearing cuirass and helmet with cross and plume. In r., spear held behind head.

*Rev.:* VICTORIA ΑΥΣΤΡΙΑ followed by officina numeral. Cross potent on base and three steps. To l., Heraclius; to r., Tiberius. Each wears chlamys and crown with cross, and holds globus cruciger. In ex., CONOB

- |  |                               |
|--|-------------------------------|
| 43. 4.26 ↓ Off. Δ Obv. δΝΝΟΝΙΤ Α ΝΥΣΠΡ | <i>DOC 2, 2, 6d</i> (668-673) |
|--|-------------------------------|

*Obv.:* Variable legend. Bust of Constantine IV bearded, 3/4 facing, wearing cuirass and helmet with plume and diadem with ties to l.; in r., spear held behind head; on l. shoulder, shield with horseman device.

*Rev.:* VΙCTΟΡΙΑ Α ΒΣΤΡΙΑ followed by officina numeral. Similar type.

- |  |                               |   |
|--|-------------------------------|---|
| 44.* 4.41 ↓ Off. Δ Obv. ]ΥΙ Α ΝΥΣΠΡ      | <i>DOC 2, 2, 8-</i> (674-681) |   |
| 45. 4.26 ↓ Off. Δ Obv. DNCON T NVSP      |                               |   |
|  | Helmet with crest             | — |
| 46. 4.37 ↓ Off. Ε Obv. δΝΙ[ ]Α ΝΥCP      | 8c                            |   |
| 47. 4.27 ↓ Off. Ι Obv. δNC Ζ ΝΥSP        | 8e                            |   |
| 48. 4.28 ↓ Off. Obscure. Obv. δNC Α ΝΥSP | 8                             |   |
| 49. 4.23 ↓ Off. Obscure. Obv. δNC Α ΝΥSP | 8                             |   |

#### JUSTINIAN II

*Obv.:* ΙΥΣΤΙΝΙΑ ΝΥΣΠΡΑV

Bust of Justinian II bearded facing wearing chlamys and crown with cross. In r., globus cruciger.

*Rev.: (double struck) -ΒΣΨ followed by officina numeral.  
Cross potent on base and three steps. In field r., \*  
In ex., CONOB*

50.\* 4.17 ↓ Off. €

DOC 2, 2 - (685-695)

TABLE 3  
Frequency Table—Hoard 3

<i>Carats</i>	<i>Maurice</i>	<i>Phocas</i>	<i>Heraclius</i>	<i>Constans II</i>	<i>Constance IV</i>	<i>Justinian II</i>	<i>Total</i>
<b>23-1/2</b>							
23	1	3	5	2			11
22-1/2	1	10	8	4			23
22	1	2	6	5	1	1	16
<i>Mean Wt.</i>	4.22	4.27	4.29	4.31	4.30	4.17	4.29

This is one of the latest hoards of Byzantine coins to be found in Syria or Palestine; in its preponderance of Heraclian and older solidi and steadily diminishing representation of later issues, it closely resembles the nearly contemporary Rehob (Beisan) hoard.<sup>10</sup>

The lone coin of Justinian II which terminates the hoard adds to the documentation for his light-weight solidi. The first such coin was originally published by Wroth, but its character was concealed by his inaccurate transcription of the weight.<sup>11</sup> M. D. O'Hara corrected this to 4.13 g, and published a second example from officina Θ which weighed 4.10 g.<sup>12</sup> To these and no. 50 may now be added another specimen from

<sup>10</sup> This hoard is described by A. Paltiel, [A hoard of Byzantine gold coins from the town of Rehob], *AHHI* 3 (1969), pp. 101-6 (in Hebrew). It has been accessible to me only through Arnold Spaer's abstract in *NL* 83-283.

<sup>11</sup> *BMCByz* 1, p. 331, no. 5, where the weight is given as 68.5 grains = 4.44 g.

<sup>12</sup> M. D. O'Hara, "A Light-Weight Solidus of Justinian II?" D. J. Crowther FPL 4 (1969), *Coins of the World*, pp. 2-3.

officina Ε, apparently from the same dies as the British Museum coin;<sup>13</sup> and one weighing 4.15 g. from officina Η which was acquired by the ANS in 1968, and which shares its obverse die with O'Hara's piece.<sup>14</sup> O'Hara was followed by M. F. Hendy in taking the standard of the first two pieces as 23 *siliquae*, but the weights of all specimens so far known fall comfortably in the 22 *siliquae* range.<sup>15</sup>

<sup>13</sup> Coin Galleries FPL 1 (1968) A 59, weight unstated.

<sup>14</sup> ANS 68.151, formerly in the Burton Y. Berry collection.

<sup>15</sup> M. F. Hendy, "Light Weight Solidi, Tetartera, and Book of the Prefect," *BZ* 65 (1972), pp. 57–80, esp. 58–59.

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BULL/TRISULA COIN ISSUES  
OF THE FIFTH TO EIGHTH CENTURY  
FROM ARAKAN, ASSAM AND BENGAL:  
A REVISED TYPOLOGY AND CHRONOLOGY

(PLATES 14-15)

ROBERT S. WICKS

Since the early 1960s, inscribed specimens of a silver Bull/Trisula coinage from southeastern Bengal have been interpreted as reading "Pattikera". Pattikera is supposed to have been the capital city of the Bengal Chandras (ca. 900-ca. 1045). These coin issues, comprising hundreds of specimens and several major varieties, have therefore been attributed to the Chandras of eastern Bengal.<sup>1</sup> If this interpretation is correct it would imply that the tenth century Chandras of Bengal were

<sup>1</sup> For purposes of discussion and clarity I maintain the spelling of "Candra" when referring to the Arakan rulers and use "Chandra" when speaking of the Bengal group. Authors maintaining a Bengal Chandra attribution for these Bull/Trisula pieces include S. M. Ali, "Chandra Kings of Pattikera and Arakan," *Journal of the Asiatic Society of Pakistan* 6 (1961), pp. 267-73; A. H. Dani, "Coins of the Chandra Kings of East Bengal," *JNSI* 24 (1962), pp. 141-42; A. M. Chowdhury, *Dynastic History of Bengal* (Dacca, 1967); M. B. Mitchiner, "Some Early Arakan and Pyu-Mon Coins," *JNSI* 34 (1972) pp. 47-59; M. B. Mitchiner, "A Group of Broad Repoussé Silver Coins Struck by the Candra Kings of East Bengal circa A.D. 1000," *NCirc.* 1978, pp. 8-9; A. G. Malloy, "New Discovery of the Candra Kingdom of East Bengal," *Medieval Coins XV-1978* (FPL), pp. 2, 9-10. See also n. 32, below.

using a coin type originally introduced by the Candas of Arakan (ca. 370-ca. 600), thereby linking the two ruling dynasties.

In assessing the validity of this interpretation, several questions are raised. Most obvious, perhaps, is the unexplained three-century gap between the Arakan Candra and apparent Bengal Chandra issues. According to notices in inscriptions, Paṭṭikera played a very minor role in Chandra politics, although it did succeed in asserting itself after the middle of the eleventh century. Recent studies have instead suggested Vikramapura as the Chandra capital. Also, the reading of "Paṭṭikera" in the coin legends is probably incorrect. Based on comparisons with inscriptions from Arakan and Bengal, "Harikela" is a more likely reading. In addition, so-called "Paṭṭikera" specimens are closely tied, both stylistically and typologically, to Bull/Trisula coins from eighth century, post-Candra Arakan. Hoard evidence supports the contemporaneity of the post-Candra and Bengal Bull/Trisula issues as well.

The coin evidence suggests a possible approach to the problem of Bengal (Harikela) and Arakan (post-Candra) relationships during the eighth century. As Harikela's Bull/Trisula issues represent the first local coinage of ancient Bengal produced in any quantity, this reassessment is also significant for clarifying the political and economic importance of Harikela during the eighth century, an otherwise undocumented period.

What follows is an exercise in numismatic method. An attempt is made to demonstrate the utility of numismatic evidence when adequate written sources are not available. This paper will outline the development of Bull/Trisula coin issues in Arakan during the Candra period (ca. 454-ca. 600) and in eighth century Arakan, Assam and Bengal, providing a revised typology and chronology for the material.<sup>2</sup>

<sup>2</sup> The symbolism and function of this coinage is dealt with in detail in the author's "From Rising Sun to Reclining Bull: A Typology and Analysis of Early Coinage from Mainland Southeast Asia," a paper presented to the 1977 Graduate Seminar in Numismatics at the American Numismatic Society, New York, revised in August 1978. The author would like to express his gratitude to the American Numismatic Society for making this study possible. An article by Pamela Gutman, "The Ancient Coinage of Southeast Asia," *Journal of the Siam Society*, vol. 66, pt. 1 (1978), pp. 8-21, is also useful.

## A TYPOLOGY OF BULL/TRISULA ISSUES

A number of varieties of the Bull/Trisula coin type are known. Major groupings of these varieties comprise classes. Formal differences in the handling of design motifs or in the quality of the coin planchet were taken into account while constructing the various classes. These divisions aid in analysis, not only in stylistic terms, but also geographically. For example, Bull/Trisula Classes A and B are known only from Arakan, while Bull/Trisula Class D is found mainly in Bengal and Assam (see Map).

Using the Mrohaung inscription of Ānandacandra, E. H. Johnston (and later D. C. Sircar) established a reliable chronology for the Candra rulers of Arakan.<sup>3</sup> Inscribed about A.D. 720, the epigraph lists a genealogy of rulers extending back to before A.D. 300. Examples of Candra coinage have survived. The earliest inscribed series is that of Devacandra who was influential during the third quarter of the fifth century.<sup>4</sup>

Class A is represented by a unique specimen weighing 4.73 g and measuring 23 mm in diameter.<sup>5</sup> The characters for *Deva* are placed, apparently as an afterthought, above the bull on the obverse. The reverse trisula comes directly from the śrīvatsa on Conch/Śrīvatsa Class C (Plate 14, 1).

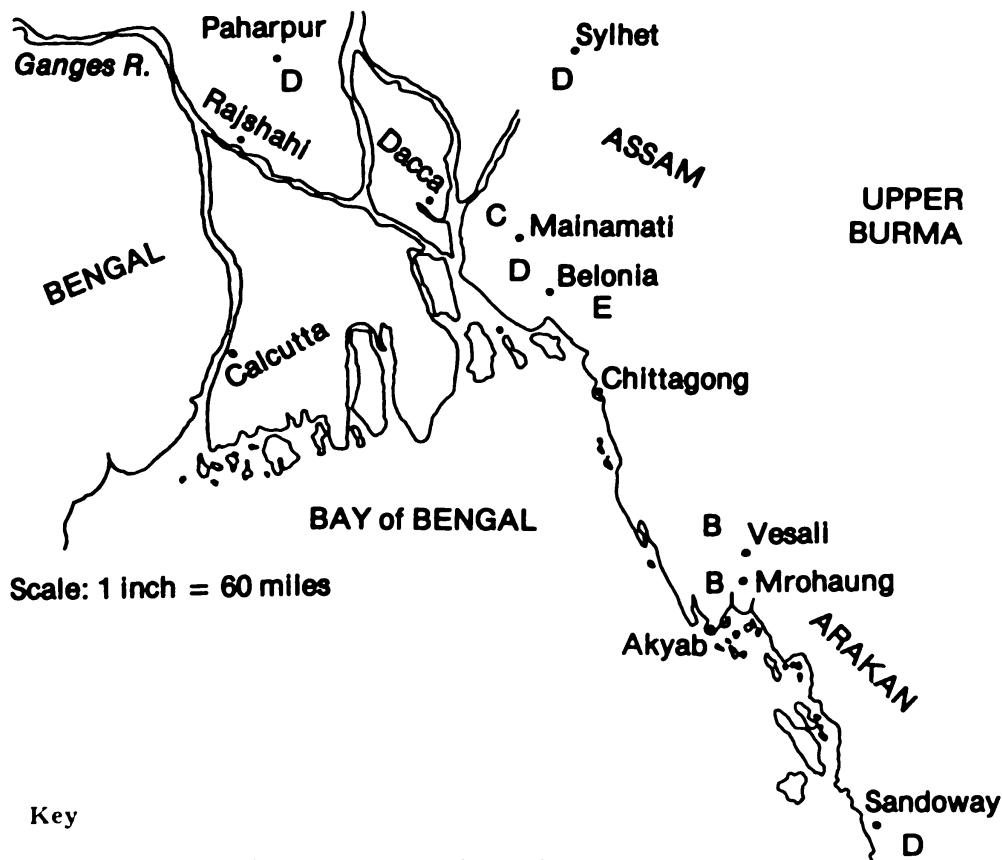
Class B consists of a recumbent Brahmany bull, facing left or right, with a necklace or wreath about its neck and the name of the ruler above in a regional script (Plate 14, 2). Usually the name is spelled out in full,

<sup>3</sup> For studies of the Mrohaung inscription see E. H. Johnston, "Some Sanskrit Inscriptions of Arakan," *BSOAS*, vol. 11, pt. 2 (1943–46), pp. 357–85; D. C. Sircar, "No. 11, Inscriptions of the Chandras of Arakan," *EpigIndica* 32 (1957–58), pp. 103–9; D. C. Sircar, "No. 13, Fragmentary Copper-Plate Grant from Arakan," *EpigIndica* (1967), pp. 61–66.

<sup>4</sup> Two inscribed types were produced by Devacandra, the first of which, Conch/Śrīvatsa Class C, is an extension of a widespread mainland Southeast Asian coinage tradition. His second coinage introduced an inscribed Bull/Trisula type. The terminology employed here, Bull/Trisula, Conch/Śrīvatsa, and so forth, is presented in the author's paper cited in n. 2 above.

<sup>5</sup> This specimen is in the British Museum. It has been published by A. P. Phayre, *Coinage of Arakan, of Pegu, and of Burma* (London, 1882), pl. 2, 7; Johnston (above, n. 3), pl. 5, 5; and Mitchiner, *JNSI* (above, n. 1), pl. 2, 14.

## Distribution of Known Bull/Trisula Coin Finds \*



## Key

- Class A: no known find-spots, probably Arakan
- Class B: multiple finds in the Mrohaung-Vesali-Akyab area
- Class C: several specimens at Mainamati
- Class D: 30-40 specimens from Sylhet  
200+ specimens from Mainamati  
1 specimen from Sandoway  
unspecified number from Paharpur
- Class E: several hundred specimens from Belonia, South Tripura (find-spot established only recently)

\* A. P. Phayre, *Coins of Arakan, of Pegu, and of Burma* (London, 1882); D. W. MacDowall, "Eight Coins of Arakan from Sylhet," *NC* 1960, pp. 229-34; A. H. Dani, "Coins of the Chandra Kings of East Bengal," *JNSI* 24 (1962), pp. 141-42; F. A. Khan, *Mainamati: A Preliminary Report on the Recent Archaeological Excavations in East Pakistan* (Department of Archaeology, 1963).

but on smaller specimens it is often limited to the first two characters. Surrounding this is a plain circle and a beaded border. The reverse is somewhat more difficult to describe. In the center of the flan is what might be called a trident or trisula. There is no defined handle, as the base is flat with a number of beads beneath it. The trident has three prongs. The central prong is slightly longer than the others, bulges at the middle, and has a pointed tip. Above the trident is an open circle, solid bead or asterisk-like form, representing the sun, and a crescent moon. On some of the larger coins S-shaped forms cascade from the top of the trident and extend to its base. Issuing forth from each S are five or six comma-shaped details, similar to stylized raindrops. Enclosing these motifs are a solid circle and beaded border as on the obverse.

Because of inscribed specimens and the Mrohaung inscription (see Table 1), the evolution of coinage during the Candra period in Arakan (ca. 454-ca. 600) is clear and regular. Coins of the main Candra dynasty, Class B, have the following characteristics: 1) side elements of the trisula are in the shape of a question mark with a rounded upper end; 2) the base of the trisula is usually flattish with rounded ends similar to an Instamatic film cartridge; 3) the hump of the bull always has a natural appearance; 4) the bull's tail is in a relaxed position; 5) when S elements from the trisula are present, they flow easily, in comma fashion, from the main "vine" to the "droplets."

After the demise of the Candras, about A.D. 600, coin production ceased for almost 75 years. Following this interregnal period Vajraśakti (ca. 649-ca. 665) started a new line at Vesali, the earlier Candra capital. While he apparently did not issue a coinage, his successors revived coin production by the end of the century. These post-Candra issues of the late seventh and early eighth century illustrate a move away from the earlier tradition. Included are coins of Dharmavijaya (ca. 665-ca. 701) and Dharmacandra (ca. 703-ca. 720) and other specimens from Bengal and Assam (Plate 14, 3-7). The characteristics of Classes C and D are: 1) side elements of the trisula are still in the shape of a question mark, but end in sharp points rather than rounded tips; 2) the base of the trisula is either flat or rounded, but the ends do not "bead" up—they end in a point or are simply rounded off with no thickening; 3) the hump of the bull is usually hooked; 4) the tail of the bull is angled upward,

TABLE 1  
 Dynastic Table of the Candra and Post-Candra Rulers of Arakan<sup>a</sup>

<i>Mrohaung Inscription</i>	<i>Years</i>	<i>Sircar's Dates</i>	<i>Copper Plate Information</i>
1. Dvenicandra	(55)	370–425	Founder of Candra dynasty; built city at Vesali (No coins known)
2. Rājacandra	(20)	425–45	(No coins known)
3. Kālacandra	(9)	445–54	Queen: Kalyāṇadēvī (No coins known)
4. Devacandra	(22)	454–76	Queen: Kyaudēvī (Two specimens)
5. Yajīacandra	(7)	476–83	Queen: Sukanyādēvī (No coins known)
6. Candrabandhu	(6)	483–89	Queen: Kimaldēvī (No coins known)
7. Bhūmicandra	(7)	489–96	Queen: Kitōmdēvī (One specimen)
8. Bhūticandra	(24)	496–520	Queen: Kimmajuvdēvī (One specimen)
9. Niticandra	(55)	520–75	(Twenty-three specimens) (Seven specimens)
10. Viracandra	(3)	575–78	(Fifteen specimens) (One specimen)
11. Priticandra	(12)	578–90	(Two specimens)
12. Prthivicandra	(7)	590–97	(One specimen)
13. Dhrticandra	(3)	597–600	(No coins known)
14. Mahāvira	(12)	600–12	Outsider from Purempura (No coins known)
15. Vrayajap	(12)	612–24	(No coins known)
16. Sevinren	(12)	624–36	(No coins known)
17. Dharmasūtra	(13)	636–49	(No coins known)
18. Vajrasakti	(16)	649–65	Started new line at Vesali (No coins known)
19. Dharmavijaya	(36)	665–701	Grandson married a daughter of the Pyu king of Śri Kshetra (One specimen)
20. Narendravijaya	(2 years (16)	9 months 703–20	Son of Dharmavijaya (No coins known)
21. Dharmacandra			Son of Vajrasakti (One specimen)

\* D. C. Sircar, "No. 11, Inscriptions of the Chandras of Arakan," *Epig. Indica* 32 (1957–58), pp. 103–9; D. C. Sircar, "No. 13, Fragmentary Copper-Plate Grant from Arakan," *Epig. Indica* 37 (1967), pp. 61–66; M. Mitchiner, "Some Early Arakan and Pyu-Mon Coins," *J.N.S.I.* 34 (1972), pp. 47–59.

forming a V; 5) the necklace is usually missing; 6) when the S elements are present, the "droplet" ends are connected in the center of the droplet rather than flowing smoothly into the outer edge; 7) later coins are less three dimensional. The legs of the bull are often awkwardly done, giving the appearance of flying.

During the main Candra dynasty (ca. 454-ca. 600) a minimum of two denominations were in use.<sup>6</sup> Large specimens, 30 mm in diameter, weigh as much as 7.32 g, while smaller issues, ca. 18–20 mm, usually weigh between 1.7 and 1.9 g. After the fall of the dynasty, with possibly one or two exceptions, no small coin specimens are recorded. Well-preserved examples of post-Candra Classes C and D weigh between 6.5 and 7.6 g. Class E specimens are bracteates and weigh between 2.7 and 4.4 g with diameters between 48 and 55 mm. Reported find spots for Candra issues include Vesali, Mrohaung, Akyab and Sandoway in Arakan, and Sylhet in Assam and Mainamati in Bangladesh for post-Candra specimens.

Before examining the political implications of the post-Candra issues it is necessary to establish their context securely. Classes C, D and E are problematic in origin and require further consideration.

#### CLASS C, Plate 14, 3–4

R. D. Banerji was the first to report on a number of specimens belonging to P. N. Tagore of Calcutta.<sup>7</sup> Banerji attributed four coins to the Candras of Arakan due to the similarity in design of both groups. However, the coins exhibit many post-Candra characteristics outlined earlier. The hump of the bull is starting to "hook." When visible, the tail is definitely V-shaped. No necklace is visible. The workmanship is also extremely poor, a trait evident in most post-Candra issues, with few motifs delineated clearly. Details, such as the hooves, ears and horns, have been reduced to beads. The bull is more in profile.

Banerji was able to decipher the names of four rulers: 1) Lalitākara, 2) Ramyākara, 3) Pradyumnākara and 4) Antākara or Annākara.

<sup>6</sup> Both D. W. MacDowall, "Eight Coins of Arakan from Sylhet," NC 1960, pp. 229–34, and Mitchiner, *JNSI* (above, n. 1), list the weights of known Bull/Trisula specimens.

<sup>7</sup> R. D. Banerji, "Unrecorded Kings of Arakan," *Journal of the Asiatic Society of Bengal*, vol. 16, pt. 3 (1920), Numismatic Supplement, no. 33, p. 85.

Johnston did not consider these readings as valid and viewed the coins as a ". . . direct continuation of the Ānandacandra tradition."<sup>8</sup> MacDowall is uncertain where to place these issues.<sup>9</sup> From Mainamati, along with the coins of Dharmavijaya (ca. 665-ca. 701) and of Class D, were recovered a number of Lalitākara specimens.<sup>10</sup> This establishes a dated archaeological context in the first part of the eighth century for these issues, and confirms Banerji's reading of at least one coin legend. The author has been unable to find any other evidence for a -*kara* dynasty in Bengal, Assam or Arakan.

#### CLASS D, Plate 14, 5-7

Class D lends itself to a number of interpretations. It was not recognized as a distinct grouping from the main Candra dynasty until 1962.<sup>11</sup> The legend on the coins has been variously transcribed as Yari Kriya, Harikota, Carikota, Phariketa, Pariketa, Paṭṭikera and Harikela. Previous theories will be outlined below and revised in light of newly-presented evidence.

Johnston, writing in 1943, doubted the Yari Kriya reading attempted by Phayre and Smith, but was unable to give a more logical one.<sup>12</sup> A number of specimens contained in an earthen pot from Sylhet, Assam, were then reported by David MacDowall (1960). Some suggested emendations were to interpret the legends as the name of a king, though not given in any available list, and possibly to read them as Harikota or Carikota. For purposes of discussion he retained Yari Kriya:

The eight new coins of Yarikriya from Sylhet are different from previously published coins of Yarikriya in a number of important ways, which enable us to indicate more precisely the relative place of Yarikriya in the general numismatic sequence; and this suggests that the coins of Yarikriya were struck not in the two

<sup>8</sup> Johnston (above, n. 3), p. 366.

<sup>9</sup> MacDowall (above, n. 6), p. 231.

<sup>10</sup> F. A. Khan, *Mainamati: A Preliminary Report on the Recent Archaeological Excavations in East Pakistan* (Dacca, 1963), p. 25.

<sup>11</sup> Dani (above, n. 1), pp. 141-42.

<sup>12</sup> Phayre (above, n. 5), p. 30; V. A. Smith, *Coins of Ancient India 1* (Calcutta, 1906), p. 332; Johnston (above, n. 3), p. 357.

centuries after the death of Ānandacandra, but in the century or so after the fall of the Candra dynasty (i.e. between the death of Dhṛticandra and the time of Ānandacandra) in a distinct petty kingdom.<sup>13</sup>

Coupled with the proposed dating of Sircar, we see that MacDowall would place this coinage in northern Arakan between about A.D. 600 and 720.

MacDowall's views were challenged by Dani in his *JNSI* 1962 article. According to recent studies, Chandra rulers held sway in southeastern Bengal from ca. 900 to 1045.<sup>14</sup> Our knowledge of them is derived from a number of copper plate grants found at Mainamati and elsewhere. From the Mainamati site were also recovered approximately 200 coins of the Bull/Trisula type. Because of this apparent association, Dani placed the latter in the cultural and political context of the Bengal Chandras during the first quarter of the tenth century.<sup>15</sup> In addition he corrected the reading to one that is currently accepted—"Paṭṭikera." "Paṭṭikera," writes Dani, "is the old name of the capital of Samataṭa. It is therefore clear that the name Paṭṭikera that occurs in these coins is the name of the mint where from the coins were issued."<sup>16</sup> Dani also notes that this coinage connects the rulers of the Arakan Candra dynasty and the Chandras of Bengal. Michael Mitchiner, writing in 1972 and 1978, accepted Dani's suggestions, describing them as "coins from the region and archaeological context of the Bengal Chandras and apparently inscribed with the name of their capital."<sup>17</sup>

<sup>13</sup> MacDowall (above, n. 6), p. 231.

<sup>14</sup> See for example, Chowdhury (above, n. 1) and A. H. Dani, "Mainamati Plates of the Chandras," *Pakistan Archaeology* 3 (1966), pp. 22–55. D. C. Sircar, "Mainamati Plates of the Chandra Kings," *EpigIndica*, 38 (1970), pp. 197–214, corrects the readings and interpretations of Dani. B. M. Morrisson, *Political Centres and Cultural Regions in Early Bengal* (Ann Arbor, 1970), pp. 157–70, provides a useful catalogue of inscriptions from the Bengal region.

<sup>15</sup> Dani (above, n. 1), pp. 141–42.

<sup>16</sup> Dani (above, n. 1), p. 141.

<sup>17</sup> Mitchiner, *JNSI* (above, n. 1), p. 59, and Mitchiner, *NCirc* (above, n. 1), p. 8.

While the solution presented by Dani is very appealing, it leaves an unexplained 200 years between the last of the datable post-Candra issues (Dharmacandra, ca. 703-ca. 720) and the first Chandra (ca. 900) emissions. For the Chandra attribution of Class D to retain its acceptance several points must be clarified: 1) Was Paṭṭikera actually the Chandra capital or merely a town on the fringe of Chandra territory? 2) How does one explain the two centuries between respective issues? 3) If Paṭṭikera specimens are indeed a Chandra issue, one would expect that both inscriptions and coins would utilize the same, or at least similar, script styles. Is this the case? 4) Can the archaeological context be defined more precisely?

A concensus of scholarly opinion is that Paṭṭikera was located in the Tippera district of Bangladesh, probably near the modern town of Comilla or Mainamati on the Lalmai-Mainamati mountain range.<sup>18</sup> Its political position in mediaeval southeastern Bengal is less certain.<sup>19</sup> At the time Paṭṭikera enters the epigraphy it was part of the Chandra empire. It was thought of in religious terms, however, and there is no hint of it being the Chandra capital. After the Chandra's fall, ca. 1045, the Paṭṭikera region regained its independence. This would explain missions to Pagan starting in the reign of Anawratha (1044–77) and the Harikāladeva plate issued by a ruler of Paṭṭikera in 1219 or 1220.<sup>20</sup> It would

<sup>18</sup> R. C. Majumdar, *History of Ancient Bengal* (Calcutta, 1971), p. 278. See also sources listed in nn. 19 and 20, below.

<sup>19</sup> Paṭṭikera is first mentioned (as a Buddhist center) in a *Prajñāpāramitā* manuscript in the Cambridge University Library, copied from an older document about A.D. 1015. It appears again in eleventh century copper plate grants found at Mainamati, Bangladesh, and in twelfth century inscriptions from Pagan. The latest reference to the town is in a copper plate grant (ca. 1220) found at Mainamati, reported by D.C. Bhattacharyya, "The Mainamati Copper-Plate of Raṇavaṇkamalla Harikāladeva (1141 Śaka)," *Indian Historical Quarterly* 9 (1933), pp. 282–89. This private grant, as opposed to earlier royal ones, includes the title of the ruler, Sri Raṇavaṇkamalla Harikāladeva. This is the only record of a ruler's name in connection with Paṭṭikera; furthermore, his title does not reflect any apparent membership in other contemporary ruling dynasties of Bengal. The toponym Harikela is mentioned, however. On Harikela, see below, n. 30.

<sup>20</sup> For more information on Paṭṭikera during these centuries, see Ali (above, n. 1), p. 268; Majumdar (above, n. 18), pp. 8, 12–13, 199–206, 278; S. P. Niyogi, "Buddhism and the Early Rulers of South-East Bengal," *Journal of Ancient Indian History*, vol. 5, pts. 1–2 (1971–72), pp. 171–81; Dani (above, n. 14); Chowdhury (above, n. 1),

appear that Paṭṭikera assumed a relatively minor role in Chandra politics. Recent studies have suggested that Vikramapura was the Chandra capital.<sup>21</sup>

Essential post-Chandra characteristics for Bull/Trisula coins were established by Dharmavijaya and Dharmacandra in the early eighth century. Paṭṭikera specimens also exhibit post-Chandra characteristics. One would expect that Paṭṭikera coins were a logical continuation of the Chandra tradition rather than having suddenly come back into vogue after a hiatus of 200 years. The following considerations serve to stress continuity.

Following the demise of the Arakan Candras, coin development was not strictly linear but branched out into two parallel groupings. The smaller of these two bodies, Class C, is an unattributed -*kara* series (Plate 14, 3, 4). Class C is very close in workmanship and design to Dharmacandra and Dharmavijaya coins, particularly with the sickle-shaped arms of the trident and the leaf-like form of the "vines" at the side. Recorded specimens weigh 7.59 and 7.75 g, being struck on the same standard as Dharmavijaya and Dharmacandra coins. Emphasizing their contemporaneity is the fact that Paṭṭikera, Dharmavijaya and -*kara* specimens have also been recovered together in a hoard context in southeastern Bengal.<sup>22</sup>

In addition, some Paṭṭikera specimens (Class D) exhibit characteristics which seem to indicate that they were struck before either the coins of Dharmavijaya or Dharmacandra, though again on the ca. 7.50 g standard. Phayre published a specimen, obtained in Arakan, that has very slightly beaded ends on the trident and a typical Chandra beaded

pp. 139–40, 154–89; Sircar (above, n. 14); G. E. Harvey, *History of Burma* (New York, 1925), pp. 326–27; G. H. Luce, *Old Burma-Early Pagan* (Ascona, 1969–70), p. 119; G. H. Luce, trans., *The Glass Palace Chronicle of the Kings of Burma* (Rangoon, 1923 and 1960); G. H. Luce, "Foreign Relations of King Aniruddha," *Studies in Asian History*, K. S. Lal, ed. (London, 1969), pp. 206–76; D. C. Sircar, "Foreign Relations of the Candras of Eastern Bengal," *Journal of Indian History*, vol. 42, pt. 3 (1964), pp. 661–66; J. Stargardt, "Burma's Economic and Diplomatic Relations with India and China from Early Medieval Sources," *JESHO* 1971, pp. 38–62.

<sup>21</sup> Morrison (above, n. 14), pp. 56–57, and Sircar (above, n. 14), p. 200.

<sup>22</sup> Khan (above, n. 10), p. 25.

base.<sup>23</sup> Several other specimens of this transitional variety are known (Plate 14, 5). The hoard context, design similarities and weight standards rule out any possibility that Paṭṭikera issues belong to the Bengal Chandras. A date sometime in the eighth century is suggested.

The comments of F. A. Khan in his 1963 field report of excavations at Mainamati support an eighth century date for Paṭṭikera specimens:

The discovery of such a large number of the “*Bull and Triratna*” type silver coins at Mainamati [more than 200] is of great significance. They happen to be the first currency finds of ancient Bengal. Their number, associations, find-spot and other available evidences strengthen our view that these coins were issued locally by a sufficiently powerful and prosperous dynasty of independent rulers, most probably the Devas, and not imported from Arakan, as was generally assumed hitherto. On palaeographical grounds also these coins are assigned to the 7th-8th centuries A.C., the date assigned to the Devas.<sup>24</sup>

Paṭṭikera coins were even more positively attributed to the Devas in *Pakistan Archaeology* for 1968.<sup>25</sup> It already has been mentioned that a number of specimens of post-Candra Dharmavijaya were found at Mainamati along with the Paṭṭikera coins; his ca. 665–701 reign period is significant and ties in well with the “... 7th–8th centuries ... date assigned to the Devas.”

But can Paṭṭikera coins be attributed to the Devas without reservation? Unfortunately, no. The existence of the Devas was not suspected until the 1950s when, during excavations at Mainamati, some badly corroded copper plates belonging to this dynasty were recovered. Because of their poor condition they have not been edited or translated, but a genealogy giving several of the rulers' names is available.<sup>26</sup> Two

<sup>23</sup> This specimen is in the British Museum. It was published by Phayre (above, n. 5), pl. 2, 12, and Johnston (above, n. 3), pl. 5, 21.

<sup>24</sup> Khan (above, n. 10), p. 25,

<sup>25</sup> “Mainamati,” *Pakistan Archaeology* 5 (1968), pp. 168–69. Although unsigned, this report was apparently written by F. A. Khan.

<sup>26</sup> R. U. Chaudhury, “Brief Note on Some Problems in Treating Bronze Objects from Mainamati (East Pakistan),” *Pakistan Archaeology* 3 (1966), pp. 91–92; Choudhury (above, n. 1), pp. 144–49; “Mainamati” (above, n. 25), pp. 161–75.

aspects of the archaeological evidence point away from supposing Paṭṭikera coins a Deva issue. First, and most important, is the fact that some Deva coins were recovered from Mainamati as well. One ". . . is inscribed with the same legend of "Bangala Mrigankayasa" [deer-stamp of Bangala] as found on the seals of copper plates of the Deva kings, and thus seems to have been issued by one of them."<sup>27</sup> It is a copy of the standard Gupta gold Archer/Lakṣmī coinage.<sup>28</sup> A local script is used, the same as on their copper plates. Paṭṭikera coins, on the other hand, are of a different metal, design, fabric and type of inscription. The relationship of imitation Gupta gold issues and Bull/Trisula coins will be returned to in a later section of this study.

Upon close examination it will be seen that the reading of Paṭṭikera for the legend on Class D coins is unsatisfactory. Table 2, A, gives readings proposed at various times by different authors. Most authors agree that the second and third graphs should read *ri* and *ke* respectively. The first and fourth are less certain, but are most likely a consonant plus *a*. Table 2, C, presents the word Paṭṭikera as it appears on two tenth/eleventh century inscriptions. Both were recovered from Mainamati, the same site as our coin finds. A reading of Paṭṭikera on the coins fails on several counts, not the least of which is a slightly different vowel notation. The *i* of *ti* and *e* of *ke* of the inscriptions flow very differently from apparently identical letters on the coins. One must also find it difficult to reconcile the *pa* and *ra* letter forms (compare Table 2, B).

Harikela, Table 2, A, no. 7, is the most recent reading, suggested in 1975 by Mukherjee and arrived at independently by the author during the 1977 Graduate Seminar in Numismatics at the American Nu-

<sup>27</sup> Khan (above, n. 10), p. 25.

<sup>28</sup> For information on the gold issues of ancient Bengal, see D. C. Sircar, "Indological Notes 9. Post-Śaśāṅka Gold Coins from Eastern Bengal," *Journal of Ancient Indian History*, vol. 4, pts. 1-2 (1970-71), pp. 186-92; S. Bandyopadhyay, "Post-Gupta Gold Coins of Bengal," *Journal of Ancient Indian History*, vol. 5, pts. 1-2, (1971-72), pp. 182-91; M. C. Das and R. D. Chaudhury, "Gold Coins from Pāglātek," *Journal of the Assam Research Society* 20 (1972), pp. 56-61; R. D. Chaudhury and M. C. Das, "A Find of Gold Coins from Assam," *JNSI* 35 (1973), pp. 171-74; M. H. Rashid, "The Maināmati Gold Coins," *Bangladesh Lalit Kala*, vol. 1, pt. 1 (1975), pp. 41-58; D. C. Sircar, "Problem of Ancient Coins from Assam," *JNSI* 38 (1976), pp. 74-80.

TABLE 2  
Transcription and Comparative Materials  
for Bull/Trisula Class D Coinage <sup>a</sup>

A.	1	YA	RI	KRI	YA	HA	RI	KE	LA	Arakan, seventh-eighth century
	2	CA	RI	KO	TA					Bengal, eighth century
	3	PA	RI	KE	TA					Bengal, tenth-eleventh century
	4	BHA	RI	KE	TA					Bengal, tenth-eleventh century
	5	PA	TI	KE	RA					Bengal, tenth-eleventh century
	6	HA	RI	KO	TA					
	7	HA	RI	KE	LA					

<sup>a</sup> A. H. Dani, *Indian Palaeography* (Oxford, 1963); A. H. Dani, "Mainamati Plates of the Chandras," *Pakistan Archaeology* 3 (1966), pp. 22-55; transcriptions are cited in the text.

mismatic Society.<sup>29</sup> It is also the most satisfactory. The inscription, now interpreted as Harikela, is close to Arakanese letter forms, particularly with the "broken" *ka* and *la* graphs for instance, suggesting an origin in the vicinity (Table 2, B, 1). The coins have been found at Sandoway, Arakan, at Mainamati, Bangladesh, and in Sylhet, Assam. Virtually hundreds of specimens of this Harikela coinage are known as

<sup>29</sup> B. N. Mukherjee, "The Original Territory of Harikela," *Bangladesh Lalit Kala*, vol. 1, pt. 2 (1975), pp. 115-20; B. N. Mukherjee, "The Coin-legend Harikela," *Monthly Bulletin of the Asiatic Society* (Calcutta) 5, (1976), p. 9. See also NL 97.353. The reading of *Harikela* is also supported by M. H. Rashid, "The Early History of Southeast Bengal in the Light of Recent Archaeological Material," unpublished Ph. D. thesis (Cambridge, 1968), and P. Gutman, "Ancient Arakan," unpublished Ph. D. thesis (Canberra, 1976). These last two sources were not available to the author at the time of writing.

compared to almost unique examples of most of the other varieties of the Bull/Trisula type. A large issue is implied by the absence of known die linkages. Therefore, whoever the issuing party may have been, they were very influential during the early eighth century. Because of the unusual type chosen, at least for Bengal at this time, some relationship with Arakan is implied.

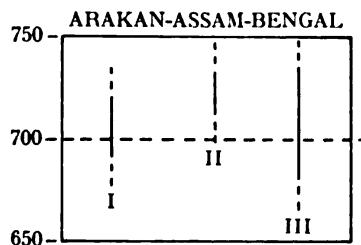
Harikela is the name of a principality, formerly a kingdom, located between Mainamati and Sylhet in Bengal. Although mentioned by a Chinese pilgrim, I-tsing, at the end of the seventh century, only one inscription from Harikela is known.<sup>30</sup> This solitary example, issued by a Kāntidēva, is dated sometime between 750 and 850, or slightly later than the present Harikela coin issues. The land grant refers to three generations of a Buddhist ruling family. If Kāntidēva's inscription is any indication, Harikela was a political power in the ninth century. Harikela declined during the rise of the Chandras at the beginning of the tenth century.<sup>31</sup>

This outline chronology implies that Harikela was a viable political force between approximately 700 and 900. Contradictions among sources do not permit more precise dating. This information corresponds well with what is known from coin evidence. The post-Candra period in Arakan is significant. Following the ca. 600–49 interregnum, coinage was finally reintroduced by Dharmavijaya (ca. 665–ca. 701). As pointed out previously, some Harikela specimens maintain Candra characteristics (Plate 14, 5). This implies that they are somewhat earlier than the Dharmavijaya. A third post-Candra series, coins of an unknown -*kara* dynasty, are apparently contemporary with, or slightly later than, the Dharmavijaya and Dharmacandra issues. Again, all three issues have been found together in a hoard context datable to the early eighth

<sup>30</sup> R. G. Majumdar, "Chittagong Copper-Plate of Kantideva," *EpigIndica* 26 (1941–42), pp. 313–18; Chowdhury (above, n. 1), pp. 150–53. See sources listed in n. 29 above and earlier notices by D. C. Bhattacharya, "Harikela and the Ruins at Maināmati," *Indian Historical Quarterly* 20 (1944), pp. 1–8 and P. C. Chakravarti, "On the Identification of Harikela," *Indian Culture* 12 (1945–46), pp. 88–93.

<sup>31</sup> Chowdhury (above, n. 1), p. 153. See also sources listed in nn. 14 and 20 above.

century. On the basis of available evidence the following chronology for Classes C and D is proposed:



- I. Class C, Dharmavijaya and Dharmacandra issues.
- II. Class C, -*kara* series.
- III. Class D, Harikela issues.

It has been established that the Class D issues read *Harikela* and date from the late seventh to the mid-eighth centuries. This conclusion is important for establishing Harikela as a viable political and economic entity during the eighth century, an otherwise undocumented period.

#### CLASS E, Plate 15, 8-11

In 1977 almost 200 specimens of an unusual variant of the Harikela issues surfaced in Europe and in the United States.<sup>32</sup> Their find spot is not known, but comparison with other Harikela specimens suggests southeastern Bengal or Assam as the place of origin. According to Mukherjee, "a large number of these coins have been found in the Belonia subdivision of South Tripura district (Tripura)."<sup>32</sup> The coins are extraordinary in that they are extremely broad bracteates, 48 to 53 mm in diameter (Plate 15, 8). Thin sheets of silver were apparently cut into disks and then struck with a die against some resilient surface (such as leather) to bring up the design. A majority of the specimens are uniface, with a Brahmany bull facing left or right encircled by a solid circle and beaded border. A three- or four-character inscription appears above the bull. Occasional specimens have crescents added to either side of the bull; still others lack the beaded border (Plate 15, 10). Often, a pair of beads

<sup>32</sup> Through the courtesy of Scott Semans and Alex G. Malloy, the author was permitted to study approximately 20 of the new bracteates. Announcements of the hoard include Mitchiner, *NCirc* (above, n. 1) and Malloy (above, n. 1). B. N. Mukherjee, "Harikela and Related Coinages," *JAIH* 10 (1976-77), p. 167, adds that "these pieces were first noticed by us in 1976 on the basis of our study of a number of them made available to us by Mr. P. Ray, V. Chaudhury and a few other numismatists of Calcutta."

appears just below the neck of the bull, perhaps remnants of the earlier necklace (Plate 15, 11). At least 10 specimens from the hoard display characteristics of a bifaced coinage (Plate 15, 8). The typical post-Candra trisula and "vine" motif with the sun and moon above is impressed opposite the design of the bull. The rarity of this practice, besides being impractical as it obliterates much of the design, betrays the origin of this variety, which is clearly a continuation of the earlier, smaller and heavier Class D coin issues of Harikela.

In their reports of this new hoard, Mitchiner (1978) and Malloy (1978) maintain an eleventh-century attribution to the Chandras of Bengal and read the inscriptions as variants of Paṭṭikera.<sup>33</sup> The untenability of this interpretation has already been discussed in relation to Class D.

Varieties from the hoard can be divided into three main groups:<sup>34</sup> 1) biface coins consisting of an obverse bull and inscription, and a reverse with trident and "vine" motif; 2) uniface coins with a four-character inscription with or without crescents at the side of the bull; 3) uniface coins with a three-character inscription with crescents at side.

These divisions do not comprise homogeneous groupings. Class E is notable for its lack of consistency; except for specimens struck from the same die, no two coins are identical. This situation makes it very difficult to deal with the coins in a systematic manner. What will be considered here are the inscriptions on the coins and what they can tell us in terms of the approximate date of the issues and their geographical origin.

<sup>33</sup> Mitchiner, *NCirc* (above, n. 1), p. 8, interprets the inscriptions as *Va Re Ke Ta*, *Vi Re Ka* and *Vi Ra Ka*. It is difficult to reconcile these readings with his suggestion that the coins are variants of *Paṭṭikera*. The reading of *Veraka* or *Viraka* has also been proposed by B. N. Mukherjee (above, n. 32) and noted by V. Chowdhury and P. Ray ("Broad Repoussé Silver Coins Struck by the Candra Kings of East Bengal, a Response," *NCirc* 1978, pp. 186–87). A question that must be asked with regard to this reading is whether or not it represents a deliberate change on the part of the die engraver. If the change was deliberate the possibility is opened that a *Veraka* or *Viraka* polity issued Class D coins. If not, it is possible that the three-character inscriptions are the result of the internal evolution of the Harikela coinage. This question must be resolved before the *Veraka/Viraka* coins can be separated from the main tradition and ascribed to a distinct political entity.

<sup>34</sup> Other classifications have been proposed by Alex Malloy (above, n. 1) and by Scott Semans (private communication, 2 January 1979).

At least one Class E specimen with a four-character inscription is very close to the Harikela legend of Class D.<sup>35</sup> A major difference is that the Arakanese "broken" *ka* is no longer employed. This change is minor, but displays a tendency in this later series to use Bengali letter forms rather than Arakanese (Table 2, B). The initial *ha* graph is almost identical to Class D specimens. The *la* is schematic and is reduced to three simple strokes—a short horizontal, a longer vertical and a crescent. This differs from the sickle form of Class D and explains later forms of the graphs in Class E. Note also that the tail of the bull is slightly hooked, typical of post-Candra Bull/Trisula coins.

A second coin utilizes local Bengali letter forms rather than simply altering Arakanese graphs.<sup>36</sup> The former hook of the *ha* graph has been connected with the base line, forming a graph which looks similar to a *cha*. The *la* has taken on the appearance of a backward *ha*, clearly deriving its form from the first variety discussed. The tail of the bull is no longer hooked. A similar specimen has shorter vowel marks on the *ri* and *ke* graphs and lengthens the *la* to make it more squarish in form.<sup>37</sup> The tail of the bull now extends over its back in an S shape.

On another coin, the *la* graph looks like a "3" with the open portion downward and L-shaped "handle" attached (Plate 15, 11). The other characteristics are preserved. Other variants draw the *la* graph out to elongate the figure, so as to appear as a retrograde "3" with a simple horizontal bar on top (Plate 15, 10). What is the significance of these last two *la* variants?

The tendency to use Bengali letter forms in Class E was mentioned at the beginning of this section. The Bengali *la* graph of the eighth century is very different from its contemporary in Arakan (Table 2, B). While specimens of Class D and early issues of Class E display Arakanese forms, die engravers soon came to adopt Bengali ones. The *la* graph adopted in Class E is identical to that used in some eighth-century charters found at Mainamati in southeastern Bengal.<sup>38</sup> This movement from Arakanese

<sup>35</sup> Malloy (above, n. 1), no. 210.

<sup>36</sup> Malloy, above, n. 1), no. 214.

<sup>37</sup> Mitchiner (above, n. 1, 1978), no. 1.

<sup>38</sup> A. D. Dani, *Indian Palaeography* (Oxford, 1963), pl. 11, 6, and sources in n. 26 above.

to Bengali letter forms, taking place in Bengal, has implications which will be returned to below. Still other variant four-character inscriptions are undecipherable or unrecognizable. Three-character inscriptions are derivative, occasionally blundered, and, in at least one instance, in retrograde.

Characteristics of these five Bull/Trisula classes can be summarized as follows:

#### CANDRA ISSUES

<i>Class A</i>	<i>ca. 454–76</i>	Arakan, ca. 23 mm, 4.73 g (unique?)
	Devacandra	ca. 454–76
<i>Class B</i>	<i>ca. 490–600</i>	Arakan, ca. 30 mm, to 7.32 g
<i>Class Ba</i>	<i>ca. 490–600</i>	Arakan, 18–20 mm, 1.7–1.9 g
	Nīticandra	ca. 520–75
	Vīracandra	ca. 575–78
	Prīticandra	ca. 578–90
	Pr̥thvīcandra	ca. 590–97
	Dhṛticandra	ca. 597–600

#### POST-CANDRA ISSUES

<i>Class C</i>	<i>ca. 665–720</i>	Arakan/Bengal, 27–30 mm, 7.20–7.95 g
	Dharmavijaya	ca. 665–701
	Dharmacandra	ca. 703–20
<i>Class C</i>	<i>early 700s</i>	Assam/Bengal? 27–30 mm, 7.59–7.75 g
	Lalitākara	unknown
	Ramyākara	unknown
	Pradyumnākara	unknown
	Antākara or Annakara	unknown.
<i>Class D</i>	<i>late 600s to mid-700s</i>	Arakan/Bengal, 27–31 mm, 6.12–7.47 g
	Harikela	a place name in southeastern Bengal.
<i>Class E</i>	<i>mid-700s on</i>	Bengal, 48–53 mm, 2.68–4.42 g
	Harikela	a place name in southeastern Bengal.

This revised chronology differs considerably from that proposed in 1978 by Michael Mitchiner.<sup>39</sup> Our main differences stem from the fact that Mitchiner would attribute Class D and E coins to the Chandras of Bengal. On the basis of supposed coin similarities he, along with several other authors, considers the Candras of Arakan and the Chandras of Bengal to be related dynasties. However, it has been demonstrated that Class D and E coins, at least those discovered to date, are most likely eighth century issues and therefore not attributable, on chronological grounds, to the Chandras of Bengal. With the coinage no longer ascribed to the Bengal Chandras there remains no evidence for supposing the two dynasties are related.

#### POLITICAL RELATIONS BETWEEN ARAKAN AND BENGAL IN THE EIGHTH CENTURY — THE NUMISMATIC PICTURE

Coinage is normally produced during times of relative calm and prosperity; note the break in coin production during the period of political upheaval in seventh century Arakan. Even after strong rule was re-instituted, about A.D. 649, coin production was not resumed until the third quarter of the century and then only sporadically through the reign of Dharmacandra (ca. 703-ca. 720, Table 1).

This period of unrest from about 600 to 649 apparently served to dislodge traditional power bases in Arakan; quite possibly this era of political uncertainty caused groups to move from Arakan into the regions to the north. Tribal chiefs then set up new bases from which to exert their influence. In order to confirm their positions as rulers or head chiefs, they issued coins. Designs known from Arakan (the bull and trident) were adopted to provide a veneer of legitimacy to their reigns.

<sup>39</sup> His chronology is reproduced in Mitchiner, *NCirc* (above, n. 1). Several additional points should be made. Mitchiner's framework does not take D. C. Sircar's 1957 and 1967 works (above, n. 3) on the dating of the Mrohaung inscription into consideration. As he leaves the interregnal period out completely, the Candra dates are slightly later than they should be and the post-Candra dates somewhat early. In order to fill a "hole" in the eighth century, Mitchiner has inserted an anonymous issue; the coin, however, is clearly Candra in style and execution. Mitchiner also does not include the unattributed -*kara* series coins.

The coins of a *-kara* dynasty were apparently produced under such conditions, as were apparently the first Harikela issues.

Harikela coins provide several indications of an Arakanese heritage, even though the majority of finds have been made in Assam and south-eastern Bengal. Some specimens display Arakanese Candra characteristics, such as beaded ends and base on the trident, comma-shaped "vines," and a necklace on the bull. Arakanese letter forms are also preferred in the early issues; only later are Bengali forms adopted. Also crucial here is the fact that a silver Bull/Trisula coinage is foreign to seventh and eighth century Bengal. Previous Bengal coinages were variants of a Gupta gold Archer/Lakṣmī coin type.<sup>40</sup>

This situation strongly supports the contention that peoples from Arakan migrated into the Bengal/Assam region and established themselves there in the late seventh century. The only groups for which we have strong evidence are the rulers of Harikela and the *-kara* dynasty. This hypothesis remains to be tested by studies of more tractable source material.

That conditions were not ideal is reflected in the manufacture of the coins. Arakan Candra issues are well-made coins with designs carefully executed in relatively high relief. Beginning with post-Candra Dharmavijaya, the coins become schematized and irregular. Dies do not completely engage with the coin blank and legends are often blundered. Finally, as in Class E, apparently because proper die materials were no longer available, rulers issued large flat coins, not to impress the populace by their size, but merely because they required less technical expertise to produce. A successive lightening of the weight standard is also evident in later Bull/Trisula issues.

<sup>40</sup> See sources listed in n. 28 above for information on the gold issues. It is important to note that both gold and silver coins of Bengal manufacture were discovered at Mainamati. The Bengal/Assam region was apparently a transition zone between South Asian and Southeast Asian cultures. To what extent the silver coinage replaced the gold, or was contemporary with it, remains to be studied. (At least four gold Bull/Trisula coins were recovered at Mainamati.) Interestingly, the introduction of Bull/Trisula coins is one instance where a Southeast Asian tradition influenced India. This one well-documented instance should make us ask if there are not other cases of Indian borrowings from Southeast Asian sources.

## CONCLUSION

A revision of the chronology for Bull/Trisula issues has served to emphasize the point that the Chandras of Bengal did not issue a Bull/Trisula coinage. They were therefore not necessarily successors to the Candra dynasty of Arakan.<sup>41</sup> The Arakanese coin type was, however, adopted by several lesser groups in northern Arakan, Assam and Bengal. Only the rulers of Harikela were able to maintain themselves over a long period of time, perhaps from about A.D. 700 to 900. The coin evidence suggests that the rulers of Harikela might have migrated to Bengal from Arakan at the end of the seventh century following a period of political unrest. The coin evidence also provides support for an otherwise unsupportable and unnecessary comment in Bengali Chandra records that they ". . . held a subordinate position to a Harikela king before gaining full independent position. . ." in the early tenth century.<sup>42</sup> Through the use of numismatic materials Harikela thus assumes a previously unsuspected importance in the early political and economic history of Bengal and Arakan.

## KEY TO PLATES 14-15

1. Conch/Śrīvatsa, Class C *Deva* (Devacandra, ca. 454-76)  
ca. 15 mm, 2.22 g, ANS
2. Bull/Trisula, Class B *Nīti* (Nīticandra, ca. 520-75)  
18 mm, 1.82 g, ANS
3. Bull/Trisula, Class. C -*kara* (Unknown dates)  
30 mm, 7.59 g, ANS

<sup>41</sup> See sources in n. 1 for some of the authors who have an "equivalency" view of Arakan and Bengal Chandras. A recent example is Michael Mitchiner, *NCirc* (above, n. 1), p. 8: "Kings of the Candra family ruled Arakan . . . within the general period A.D. 400 to 800 and thereafter continued to control a lesser kingdom in Bangla Desh (East Bengal) until about A.D. 1050."

<sup>42</sup> Chowdhury (above n. 1), p. 153. Niyogi (above, n. 20), p. 176 makes a similar statement, as does Mukherjee, *BangLalitKala* (above, n. 29), p. 119.

4. Bull/Trisula, Class C -*kara* (Unknown dates)  
30 mm, 7.75 g, ANS
5. Bull/Trisula, Class D *Harikela* (Late seventh century)  
30 mm, 7.47 g, ANS
6. Bull/Trisula, Class D *Harikela* (Early eighth century)  
30 mm, 4.59 g (broken), Author's Collection
7. Bull/Trisula, Class D *Harikela* (Early eighth century)  
29 mm, 5.12 g, Author's Collection
8. Bull/Trisula, Class E *Harikela* (Mid-eighth century)  
56 mm, 3.77 g, Scott Semans Collection
9. Bull/Trisula, Class E *Harikela* (Mid-eighth century)  
53 mm, 4.21 g, Scott Semans Collection
10. Bull/Trisula, Class E *Harikela* (Mid-eighth century)  
53 mm, 3.73 g, Scott Semans Collection
11. Bull/Trisula, Class E *Harikela* (Mid-eighth century)  
53 mm, 3.03 g, Scott Semans Collection



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## A CONTRIBUTION TO DĀNISHMENDID HISTORY: THE FIGURED COPPER COINS

(PLATES 16-17)

ESTELLE J. WHELAN

The Dānishmendids were a Turkish family who dominated central Anatolia from the late eleventh century to the third quarter of the twelfth. Despite their important role as adversaries of the Seljūqids of Rūm, the Comnenian rulers of Byzantium, and the early Crusaders, little detailed evidence on their origins and activities is available.

The few surviving monumental inscriptions were collected and deciphered by van Berchem in 1912.<sup>1</sup> Mélikoff and Cahen have gathered the references from Syriac, Greek, Latin, and Arabic chronicles and reconstructed the basic outline of events connected with the family.<sup>2</sup> Mélikoff has also published a major study of the romantic epic in which Dānishmend himself figures as hero, definitively separating the many elements of legend from the few reliable facts on the family's origins and early history.<sup>3</sup>

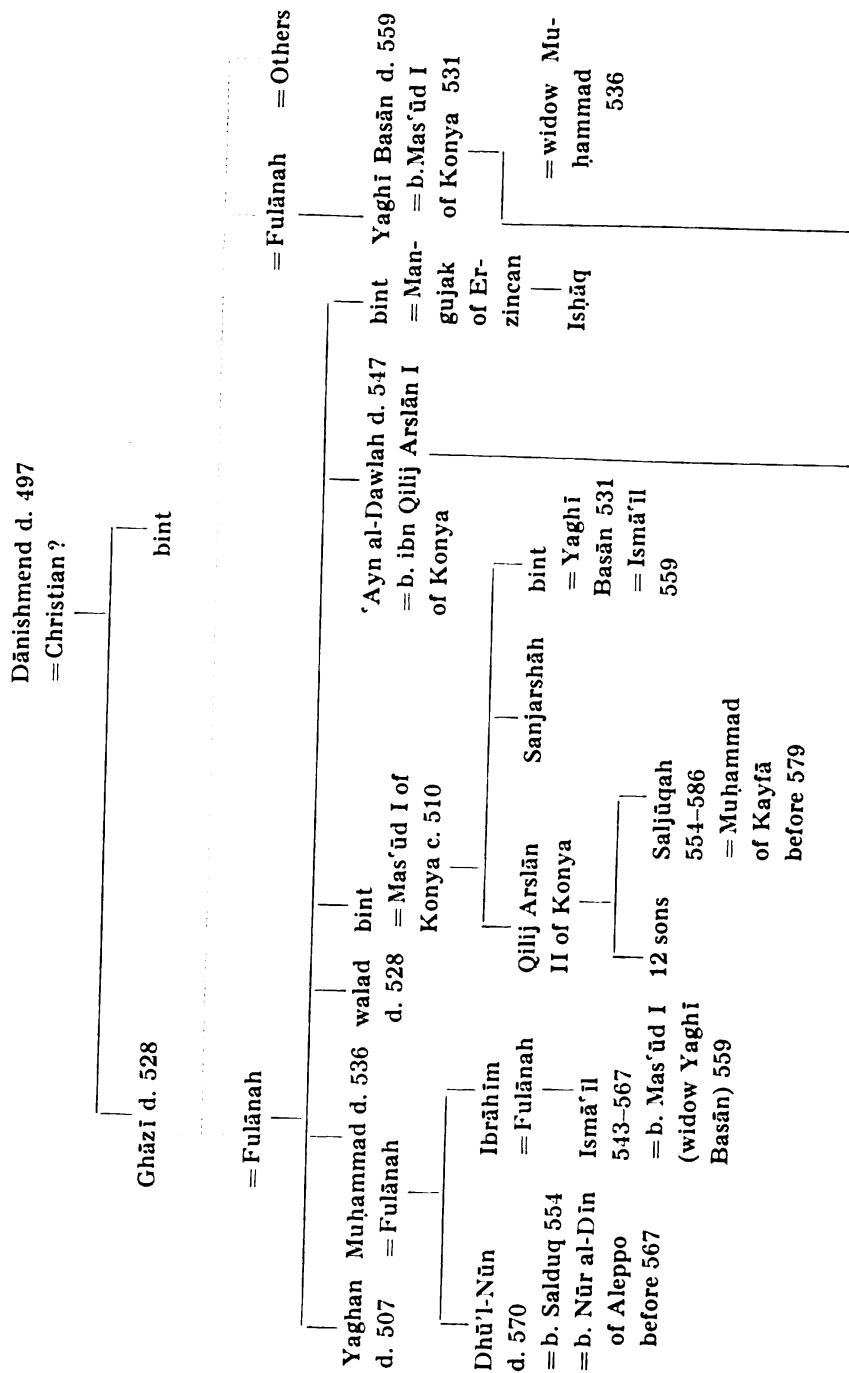
In addition to these limited sources, the Dānishmendids have left us a series of copper coins, which are both valuable as historical documents and intriguing for a number of odd features that characterize them.

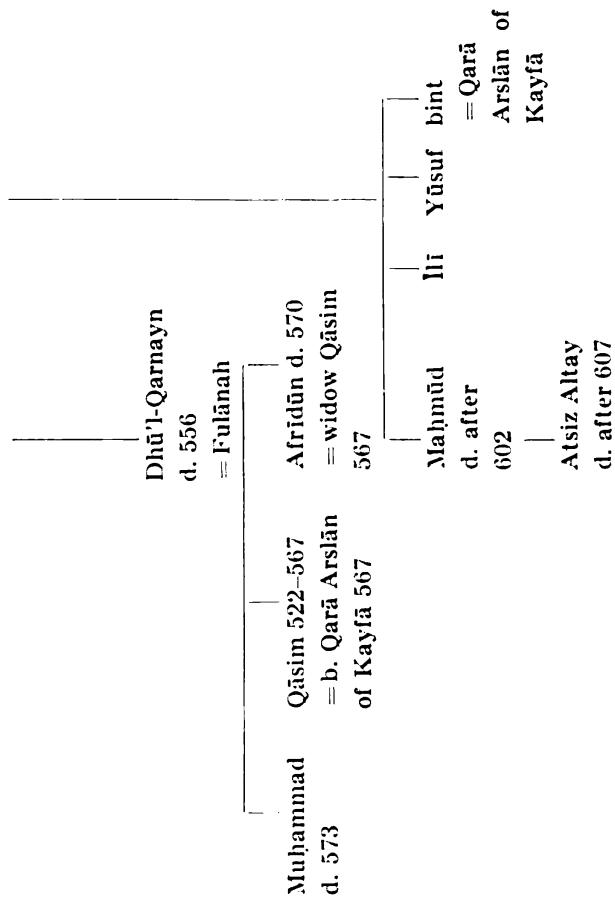
<sup>1</sup> M. van Berchem, "Épigraphie des Danishmendides," *Zeitschrift für Assyriologie*, 27 (1912), pp. 85-91.

<sup>2</sup> *EI*<sup>2</sup>, s.v. "Danishmendids" (Mélikoff); and C. Cahen, *Pre-Ottoman Turkey* (New York, 1968).

<sup>3</sup> I. Mélikoff, *La geste de Melik Dānişmend*, 2 vols. (Paris, 1960).

TABLE I  
 Genealogy





This body of material was partially identified in the late nineteenth century; Casanova provided the most nearly complete of the early studies.<sup>4</sup> Some of his more serious errors were later corrected by Laurent.<sup>5</sup>

Until now, however, there has been no detailed and systematic study of these coins, among the earliest to reintroduce figural imagery to Islamic coinage in the mediaeval period. Here we shall examine the known Dānishmendid coin types, trace the sources of their imagery, and attempt to establish their chronological sequence in relation to known political events.

Dānishmend died in A.H. 497/A.D. 1104 and was succeeded as head of the family by his son Amīr Ghāzī, who was in turn succeeded by a son, Muḥammad, in 528/1134 (see Table 1: Genealogy). Upon the death of Muḥammad at Kayseri in 536/1142, however, the family split into three branches, with capitals at Malaṭyah, Kayseri, and Sivas. The coins struck after 536 will therefore be presented in the sequence in which they seem to have been issued at each of these three cities, followed by a final general section on chronology and a concluding note on figural imagery.<sup>6</sup>

## EARLY DĀNISHMENDIDS

### 1. AMĪR GHĀZĪ (A.H. 497–528/A.D. 1104–34)

*Type A*, Plate 16, 1.

*Obv.:* Pearled circle encloses inscription in crude Greek uncials, laid out in four rather uneven lines:<sup>7</sup>

<sup>4</sup> P. Casanova, *Numismatique des Danichmendites* (Paris, 1896) (hereafter, Casanova). This work is a separate reprint of Casanova's articles in *RN* 1894–96.

<sup>5</sup> J. Laurent, "Sur les émirs danichmendites jusqu'en 1104," *Mélanges offerts à M. Nicolas Iorga* (Paris, 1933), pp. 499–506.

<sup>6</sup> I am grateful to the following persons for permission to examine the Dānishmendid coins in their possession or care: Ibrahim Bey and Cemriye Hanum Artuk of the Istanbul Arkeoloji Müzesi (IAM); Ibrahim Bey Tözen of the Yapı ve Kredi Bankası, İstanbul (YKB); N. Lowick of the British Museum (BM); M. L. Bates of the American Numismatic Society; and Mr. J. Slocum (JSColl.).

<sup>7</sup> The terms "obverse" and "reverse" are being used here only to conform to numismatic convention. No die study has been undertaken and what is meant by obverse throughout is the side of the coins on which the inscription begins; the reverse, of course, is the side on which it concludes.

ΟΜΕΓΑC	The great
ΑΜΗΡΑC	amīr
ΑΜΗΡΓΑ	Amīr Ghā
ZHC	zī <sup>8</sup>

Sometimes the sigmas at the ends of the lines are reversed. On at least one example there is an ornamental device centered above the inscription; it consists of an X with a dot centered in each of the four spaces.<sup>9</sup>

*Rev.:* Bust of Christ with cruciform halo encircled by pearly band.

On some examples the halo itself, as well as the arms of the cross, is outlined in “pearls.” Occasionally the bust is flanked by the abbreviations  $\overline{IC}$  and  $\overline{XC}$ . The known examples of this type are so poor in quality that precise description of details is impossible, but one specimen in the Bibliothèque Nationale, Paris, has one “pearl” centered in each arm of the cross and two “pearls” on the chest, suggesting that the figure may be grasping a codex.<sup>10</sup>

See: Butak, no. 104; Casanova, pl. 3, 1–2; Schlumberger, nos. 3–5.<sup>11</sup>  
Coins examined: YKB, 1.

<sup>8</sup> The Arabic equivalent of this inscription would be “al-Amīr al-Kabīr Amīr Ghāzī.”

<sup>9</sup> Cabinet des Médailles, Bibliothèque Nationale, Paris, published in Casanova, pl. 3, 2.

<sup>10</sup> Cabinet des Médailles, Bibliothèque Nationale, Paris, published in Casanova, pl. 3, 1.

<sup>11</sup> In addition to Casanova, references to coins are to Artuk (I. and C. Artuk, *Istanbul Arkeoloji Müzeleri Teşhirdeki İslāmī Sikkeler Kataloğu*, 1 [Istanbul, 1971]); Butak (B. Butak, *XI., XII. ve XIII. Yüzyıllarda Resimli Türk Paraları* [Istanbul, 1947]); Schlumberger (G. Schlumberger, “Une nouvelle monnaie à légende grecque des émirs danichmendides de Cappadoce: Monnaie de cuivre bilingue de D’soul-Karnéin, émir de Mélitène vers le milieu du XII<sup>e</sup> siècle,” *Mélanges d’archéologie byzantine* [Paris, 1895]); and Tevhid (A. Tevhid, *Meskükät-i Kadime-i İslāmiye Kataloğu*, 4 [Istanbul, 1903]).

Sources: As far as can be judged from very worn specimens, this type seems to have been derived from pre-reform copper coins of Alexius I Comnenus (A.D. 1081–1118) struck in Constantinople before A.D. 1092.<sup>12</sup> Most of Alexius' post-reform examples differ slightly in detail,<sup>13</sup> as do those of his successor, John II (A.D. 1118–43).<sup>14</sup>

The anonymous folles of the late tenth and eleventh centuries also seem rather similar, though no example on which the bust is cut off as short as on Ghāzī's coin seems to exist. But ornaments similar to that on the front of Ghāzī's coin are particularly frequent on coins of anonymous class A.<sup>15</sup> Furthermore, the rather blunt Greek script seems somewhat related.

The titulary, however, clearly owes nothing to Byzantine coins. It is of a standard Islamic type translated into Greek. As far as Schlumberger was aware, the only approximately contemporary uses of the title "amiras" within the Byzantine empire were connected with Admiral George. For example, it appears on the impression of his personal seal on a document dated 1143 now in the archives of the Cappella Palatina in Palermo. On other documents he used the title *μονοστράτεγος πάσης Ἀνατολῆς*.<sup>16</sup>

Although George's adoption of the title "amiras" postdates the striking of the Dānishmendid coins, the connection between the latter and Byzantine personal seals is worth noting. It is particularly apparent in the workmanlike quality of the script, in contrast to the more elegant characters common to coins struck at the capital.<sup>17</sup> Michael Bates has pointed

<sup>12</sup> M. Hendy, *Coinage and Money in the Byzantine Empire 1081–1261* (Washington D.C., 1969), pl. 2, 20–21.

<sup>13</sup> Hendy (above, n. 12), pl. 8, 1–2; the halo is absent from this example.

<sup>14</sup> Hendy (above, n. 12), pl. 10, 9–11, for examples in billon; pl. 11, 1, for an example in copper.

<sup>15</sup> For examples from class A2 in particular, see *DOC* 3, 2, p. 645, table 24. These coins are datable approximately to A.D. 976–1035.

<sup>16</sup> Schlumberger, *Sigillographie de l'empire byzantin* (Paris, 1884), pp. 343–44 (hereafter, *Sigillographie*). Schlumberger noted that "amiras" apparently meant "admiral" in Greek. According to E. Partridge, *Origins: A Short Etymological Dictionary of Modern English*, 2nd ed. (New York, 1959), the words for "admiral" in mediaeval Latin, French, and English were all ultimately derived from the Arabic "amīr al- . . .".

<sup>17</sup> For examples, see Hendy (above, n. 12), pl. 2, 14–17, all in silver.

out,<sup>18</sup> however, that, as there had been no mints in Anatolia for some centuries, probably the only craftsmen available to the early Dānishmendid amīrs were the seal cutters.

## 2. MALIK MUHAMMAD (A.H. 528–36/A.D. 1134–42)

*Type A*, Plate 16, 2.

*Obv.:* Four-line inscription in Greek uncial letters within circular frame, sometimes pearled and sometimes plain:

ΟΜΕ	The ki
ΛΗ ΚΙΣΠ	ng of a
ΑΧΡΩ	ll Ro
ΜΑΝΙΑC	me

The characters tend to be crude and the lines uneven; and because of the poor condition of most of the examples studied, the legends must be pieced together.

*Rev.:* In frame like that on obverse, inscription continues in four additional lines:

ΚΑΙΑΝ	and An
ΑΤΟΛΗC	atolia
ΜΑΞΑΜ	Muham
ΑΤΙC	mad <sup>19</sup>

See: Tevhid, nos. 102–4; Casanova, pl. 3, 3–4.

Coin examined: ANS, 2; BM, 1; Fogg Museum (cast at ANS), 1; JSColl., 6; photograph from market, 1969, 1.

<sup>18</sup> Personal communication.

<sup>19</sup> The Arabic version of the obverse would read “Malik Bilād al-Rūm.” The reverse, in Arabic, would read “wa'l-Anaṭūl Muḥammad.” Once again the connection between the Dānishmendid coins and Byzantine seals is apparent, not only in the script but also in the titulary. As Schlumberger pointed out (*Sigillographie*, p. 333), the common title for the supreme commander of the eastern forces of the Byzantine empire, as it would appear on seals, was *μυνοστράτεγος πάσης Ἀνατολῆς* or a variation. It is clear, then, that Muḥammad combined both Islamic and Byzantine features in his protocol.

## DĀNISHMENDIDS OF MALĀTYAH

1. 'AYN AL-DĀWLĀH ISMĀ'IL<sup>20</sup> (A.H. 536-47; A.D. 1142-52)

*Type A*, Plate 16, 3.

*Obv.*: Plain circle encloses three lines of large Greek uncials:

AΙΝΑΛ	'Ayn al-
ΣΩΛΑC	Dawlah
OYIOC	the son

*Rev.*: Plain circle encloses four lines of Greek script like that on the obverse:

ΤΟΥΜΕ	of the gr
ΓΑΛΟΥΜΕ	eat ki
ΛΗΚΙΑΜΗΡ	ng Amīr
ΓΑΖΗ	Ghāzī <sup>21</sup>

See: Tevhid, no. 101; Artuk, no. 1180; Butak, no. 103.

Coin examined: BM, 1; JSColl., 2; Bank Leu (cast at ANS), 1.

No coins have previously been attributed to 'Ayn al-Dawlah. The type under discussion here has posed something of a puzzle, for the device at the beginning of the second line has long been thought to be an Arabic ṭughrā; nevertheless, despite its apparent simplicity, no one has ever been able to read it.

Tevhid, who first published this type, suggested that the letters IN in the first line were an abbreviation for "indiction" and that the succeeding alpha, as the first letter in the Greek alphabet, stood for the numeral one, indicating the first indiction year. That the method of dating by cycles of fifteen indiction years was still current in Malātyah is proved by the Type A coins of 'Ayn al-Dawlah's son Dhū' l-Qarnayn. Tevhid then read the lambda and alpha following the supposed ṭughrā as the numerals three and one. He thus attributed the coin to the

<sup>20</sup> Mélikoff (above, n. 2) gives the name of this prince of Malātyah as Ismā'il.

<sup>21</sup> The Arabic version of this entire inscription would be "'Ayn al-Dawlah ibn al-Malik al-Kabīr Amīr Ghāzī."

thirty-first regnal year of Amīr Ghāzī's son Muḥammad, 528–36 (Tehvid [above, n. 11], pp. 84–85).

There are several problems with this interpretation, however. First, Muḥammad's reign lasted only eight years and those of Amīr Ghāzī's other sons, Yaghī Basān and 'Ayn al-Dawlah, 22 and 11 years respectively. Second, the reading leaves the first alpha of the first line and the final sigma of the second line out of account. Third, it provides no explanation of the placement of an Arabic ṭughrā in the middle of a Greek date.

Cahen, on the other hand, read the uncials in the first two lines as Ainalas, a convincing Greek spelling of the Turkish name Inal.<sup>22</sup> But he too failed to offer an explanation for the presence of the “ṭughrā.”

Probably, this device is not a ṭughrā at all but the Greek letters delta and omega written in cursive script. The first two lines can then be read Ainal Dolas or 'Ayn al-Dawlah. That cursive script was sometimes combined with uncials in the mediaeval period is known from inscriptions, for example, that on a tombstone of the year 1236 published by I. Ševčenko.<sup>23</sup> It has not been possible to find a precise duplicate of the particular device on the coins, but B. A. van Groningen has included in his list of cursive abbreviations found in manuscripts several examples of the delta written this way as well as of the connecting line that loops around the second letter (in the *Short Manual of Greek Palaeography*, 3rd rev. ed. [Leyden, 1967], p. 47). T. Mathews of the Institute of Fine Arts, New York University, has conveyed to this writer the opinion of C. Mango that the first character of the Dānishmendid “ṭughrā” is indeed a delta.

This is all the more convincing in that Amīr Ghāzī had a son, 'Ayn al-Dawlah, who ruled at Malaṭyah, whereas there is no record of a Dānishmendid named Inal, certainly not one who was in a position to issue coinage. It also seems reasonable to expect that the ruler of Malaṭyah, like his father and brothers, would have struck coins; this type is evidence that he did so.

<sup>22</sup> Cahen (above, n. 2), p. 95.

<sup>23</sup> I. Ševčenko, “A Byzantine Inscription from the Period of the Latin Domination in Constantinople,” in *Near Eastern Numismatics, Iconography, Epigraphy and History: Studies in Honor of George C. Miles*, D. K. Kouymjian, ed. (Beirut, 1974), pp. 383–86.

## 2. DHŪ'L-QARNAYN (A.H. 547–57/A.D. 1152–62)

*Type A*, Plate 16, 4.

*Obv.:* Plain circle frames three lines of crude cursive script:

الواشق	al-Wāthiq
ذو القرنين بن	Dhu'l-Qarnayn b.
عين الدولة	'Ayn al-Dawlah

In margin, within outer plain circle, is additional inscription in crude Greek uncials:

ΟΜΕΓΑΣΑΜΗΡΑΣΔΟΛΧΑΡΝΑΙ  
The great Amīr Dhū'l-Qarnayn

One example at the ANS is counterstamped with the name “Muhammad” in cursive Arabic script; it no doubt refers to Dhū'l-Qarnayn’s son and successor, Nāṣir al-Dīn Muḥammad.

*Rev.:* Composition and frames are as obverse. In the field, very crude profile head faces r.

Marginal inscription in Greek uncials:

ΙΝΔΙΚΤΙΩΝΟΔΕΒΤΕΠΙC  
The second indiction

The profile head has no forehead, and the large aquiline nose begins immediately below the hairline. The hair, indicated by simple striations, is gathered into a bun at the back of the neck. A long, pointed beard juts out stiffly, and there seems to be a garment at the base of the neck. The ANS coin mentioned above also has a counterstamp on this side, but it could not be read.

See: Tevhid, no. 117; Artuk, no. 1186; Butak, no. 110; Casanova, pl. 3, 10.

Coin examined: ANS, 5; BM, 2; JSColl., 1.

Sources: Dhū'l-Qarnayn’s Type A defies identification with a specific model. There are a few superficial similarities to silver coins of the Parthian Phraates IV:<sup>24</sup> the pointed beard masking a thick neck, the

<sup>24</sup> See, for example, D. Sellwood, *An Introduction to the Coinage of Parthia* (London, 1971), fig. 51/38.

bun of hair at the back of the disproportionately small crown of the head, and so on. But all the characteristic details of the Parthian image—the clustered curls, the ribbon diadem, and the carefully rendered garment—are absent from the Dānishmendid coins. It is thus most likely that the general similarities are coincidental.

### 3. NĀŠIR AL-DĪN MUHAMMAD<sup>25</sup>

(A.H. 557–65/A.D. 1162–70 and A.H. 570–73/A.D. 1175–78)

*Type A*, Plate 16, 5a, 5b.

*Obv.*: In circle of large, widely spaced pearls are four lines of crude cursive script:

ناصرالدین	Nāṣir al-Dīn
محمد بن ذی	Muhammad b. Dhī
لقرنین بن	'l-Qarnayn b.
عین الدو (لة)	'Ayn al-Daw(lah)

Sometimes the fourth lines reads 'Ayn al-Daw, and sometimes 'Ayn al-Dawlah. The script looks as if it had been laid out on the die and then cut clumsily, so that the curving lines have an angular, unfinished quality.

*Rev.*: Two standing figures, facing. Figure at r. with halo, l. hand palm outward, r. hand stretched to crown l. figure. Long robe on r. figure with vertical lines in center and r. of skirt, forming panels marked by horizontal striations. Over shoulders, short cape with appliquéd crosses among folds and on l. shoulder. Cape falls from raised r. arm in long sleeve and drapes over l. Figure also wears headcloth.

Figure on l. wears flat coronet of two rows of “pearls” with pendilia, each ending in triple “pearls.” Wears loros edged at chest by pearly band between two plain bands. Loros is wrapped at hips so that across front is rectangular panel with “X” contain-

<sup>25</sup> Mélikoff (above, n. 2) refers to this prince as “Naṣr al-Dīn.” The spelling on the coins is quite clearly “Nāṣir,” however.

ing "pearl" at its intersection and centered in each of its compartments. Loros end trails over figure's l. arm; in l. hand is small anexikakia. Clad in short sleeve, r. arm grasps staff of labarum scepter; its rectangular top has same "X and pearl" pattern as loros, with additional "pearls" at four corners.

Figures' feet and ankles visible below garments. At top center is oval form, with two symmetrical branches sprouting small buds or leaves; on some coins this is more linear and abstract. Flanking figures are two lines of cursive script:<sup>26</sup>

ثمان خمسين	r. eight fifty
خمسة	l. five hundred.

See: Tevhid, no. 118; Artuk, no. 1187; Butak, no. 111; Casanova, pl. 4, 1-2.

Coin examined: IAM, 1; YKB, 4; ANS, 2; JSColl., 1.

Sources: Muḥammad's Type A appears to have been copied rather closely from an electrum coin struck by Manuel I Comnenus (A.D. 1143-80) at Constantinople, the one designated by Hendy as variant A of the first coinage.<sup>27</sup> Almost all the details are identical: the labarum scepter, the anexikakia, the decoration of the costumes (the Byzantine clusters of four dots on the Virgin's cape have been fused by the Dānishmendid die cutters into crosses), the precise positioning of both figures' hands, and the presence of inscriptions flanking the image. The only alterations appear to be the omission of the jewels from the coronet of the figure at the left and the substitution of an ornamental device for the letters  $\overline{MP}$   $\overline{\Theta V}$  between the two figures.

Muḥammad's coin is unusual in that it imitates a Byzantine type that is very nearly contemporary; in contrast, the closely related image

<sup>26</sup> Artuk read the inscription on no. 1187 in the IAM as a date: **ثمان خمس** **خمسة** (558). Although the reading of this coin is difficult, another example, in the collection of the YKB (Plate, 5b), does seem to confirm it.

<sup>27</sup> Hendy (above, n. 12), pl. 13, 1.

on the reverse of a coin struck by the Artuqid Alpī of Mārdīn, probably in 1155, was based on a Byzantine model of the early eleventh century.<sup>28</sup>

*Type B*, Plate 16, 6.

*Obv.*: In pearlized circle, three rather uneven lines of tall cursive script:

ناصر الدين ابو الفتح	Nāṣir al-Dīn Abū'l-Fath
محمد بن ذو القرنين	Muhammad b. Dhū'l-Qarnayn
نصير امير المؤمنين	Naṣir Amīr al-Mu'minīn

Although by no means refined, the script does not have the angular, “cut-out” look of that on Type A.

*Rev.*: Rider mounted on galloping horse, r. Hair pulled back into bun, and chin encircled by short beard rendered as small knobs. Clad in fitted, short-sleeved tunic with short skirt; around waist, wide band of two rows of oval plates. Rider's r. foot planted on body of serpent, with r. hand grasping end of lance, which is thrust into serpent's open jaws. In l. hand figure grasps reins attached to curb bit on horse's muzzle. No details of saddle or stirrup visible, but strap to secure former passes across horse's hind quarters and under knotted tail. Scaly body of small serpent is uncoiled and stretches beneath horse's galloping hooves with gaping jaws turned upward. Entire image surrounded by pearlized circle.

See: Casanova, pl. 4, 3.

Coin examined: YKB, 5; ANS, 1.

Sources: The image on Type B is derived from traditional representations of cavalier saints slaying dragons, which had been current in the Near East for centuries. Der Nersessian traced this representation to Greek bronze coins struck at Isinda in Pisidia during the first century B.C.<sup>29</sup>

<sup>28</sup> See *BMCOr*, pl. 8, 372; for the gold coins of Romanus III that served as models see *DOC* 3, 2, pl. 56, 1d.1, 1d.8.

<sup>29</sup> *BMC* Lycia, pp. 223–24, nos. 4–9, pl. 36, 3–5. Der Nersessian mistakenly located Isinda in Lycia; see *Aghl'amar: Church of the Holy Cross* (Cambridge, Mass., 1965), p. 24. See also *SNGvAulock* 5032–35.

It remained popular in the same province throughout the Roman period.<sup>30</sup> On these coins the serpent is always coiled beneath the horse's feet, but sometimes it also rears its head up in front of the animal's face. The rider is, of course, in classical costume and helmet; he holds his lance as if to thrust it forward, rather than straight down, and it is rarely aimed directly into the serpent's jaws.

According to Grabar, these ancient examples denote imperial triumph.<sup>31</sup> Although the precise type of mounted emperor thrusting a lance at a serpent coiled beneath his horse's feet disappeared from Byzantine coinage until after the period with which we are concerned,<sup>32</sup> it was adapted for representations of cavalier saints in other eastern Christian milieux, especially in eastern Anatolia and Georgia.<sup>33</sup>

The first example cited by Der Nersessian is on a capital dated to the sixth century, which was found at Dvin in the old province of Armenia; a serpent is said to be coiled beneath the feet of the horse.<sup>34</sup> This relief survives in only fragmentary form, and it is not at all clear that it represents either a cavalier or a serpent. Sotiriou dated to the seventh century a similar representation of St. Theodore fighting a serpent on an icon in the monastery of St. Catherine on Mount Sinai.<sup>35</sup>

<sup>30</sup> Hadrian (A.D. 117–38) struck such a type in bronze at Baris; *SNGvAulock* 5009. For bronze types struck at Isinda see those of Lucius Verus (A.D. 161–69), *SNGvAulock* 5037; of the time of Caracalla (A.D. 188–217), *BMCLycia*, p. 224, no. 10, pl. 36, 5; of Septimius Severus (A.D. 193–211), *SNGvAulock* 5048; of Valerian (A.D. 233–60), *SNGvAulock* 5018; and of Trebonianus Gallus (A.D. 251–53), *BMCLycia*, p. 226, no. 19, pl. 36, 10. In addition, see the reverse of a gold coin of Constantius II (A.D. 324–361) said to have been struck in Milan; H. Cohen, *Description historique des monnaies frappées sous l'empire romain communément appelés médailles impériales*, 2nd ed. (Paris, 1888), 7, p. 413.

<sup>31</sup> A. Grabar, *L'empereur dans l'art byzantin* (Strasbourg, 1936), p. 47, n. 4.

<sup>32</sup> Schlumberger published a rare seal with such an image belonging to a minor Byzantine official; he attributed it to the end of the Comnenian period (*Sigillographie* [above, n. 16], p. 502). The seal is not well preserved, but from Schlumberger's drawing it is possible to see that the horse is galloping and the serpent uncoiled beneath its feet. These features are similar to those on Muhammad's coin, but the halo, the fluttering cape, and the flexed position of the rider's leg are all quite different.

<sup>33</sup> Der Nersessian (above, n. 29), p. 24.

<sup>34</sup> See K. Kafadarian, "Les fouilles de la ville de Dvin (Duin)," *RevÉtArmin* 2 (1965), pl. 33, fig. 33.

<sup>35</sup> G. and M. Sotiriou, *Icones du Mont Sinai*, 1 (Athens, 1956), fig. 30.

Strzygowski also attributed to the seventh century a relief with a coiled serpent from the "palace church" in the citadel at Ani near Nakhichevan,<sup>36</sup> but Brosset believed that it could not have been carved earlier than 1072.<sup>37</sup>

The early tenth-century reliefs on the Armenian church at Aght'amar include an image of St. Theodore thrusting his lance into the open jaws of the serpent, whose body is tied in a heart-shaped knot. The saint is clad in armor, and his head is encircled by a halo.<sup>38</sup> Another image of St. Theodore, this time with a coiled dragon, is carved on a tympanum at the church of Nicorzminda in Georgia; Baltrušaitis dated it without explanation to the eleventh century.<sup>39</sup>

It is clear that the type of warrior saint had a long history in the Christian Near East. On the majority of these images the saint is clad in armor with a short cape, his head is encircled by a halo, and his body is turned so that the head and torso are nearly frontal. The horse usually has its feet firmly planted on the ground, and the serpent is knotted or coiled beneath them.<sup>40</sup>

A somewhat different version of this basic image appeared in the early twelfth century on copper coins of the Crusader Prince Roger, who usurped the throne of Antioch in the guise of regent for Bohemond II between A.D. 1112 and 1119.<sup>41</sup> Here the body of the mounted warrior is nearly in profile, though still clad in armor and with a halo. He leans forward to thrust his lance forcibly into the mouth of a small serpent,

<sup>36</sup> J. Strzygowski, *Die Baukunst der Armenier und Europa*, 1 (Vienna, 1918), pp. 288–90, fig. 329. Strzygowski also mentioned two painted cavalier saints flanking the apse of the church of Lmbat at nearby Artik, vol. 2, pp. 498–99, fig. 530. As no photograph is available, it is unclear whether or not they are combating serpents.

<sup>37</sup> M. Brosset, *Les ruines d'Ani*, 1 (St. Petersburg, 1860), pp. 33–34, pl. 37.

<sup>38</sup> Der Nersessian (above, n. 29), fig. 30.

<sup>39</sup> J. Baltrušaitis, *Études sur l'art médiéval en Géorgie et en Arménie* (Paris: 1929), pp. 47–48, 58, 79, 80, pl. 67, fig. 108.

<sup>40</sup> This same general kind of representation was still known in the thirteenth century; a relief with a pair of mounted warriors thrusting lances into the open mouths of coiled serpents occurs above the so-called "royal door" to the sanctuary of the monastery church of Mär Behnām southeast of Mosul; see C. Preusser, *Nordmesopotamische Baudenkmäler* (Leipzig, 1911), pl. 10, top.

<sup>41</sup> G. Schlumberger, *Numismatique de l'Orient Latin* (Paris, 1878), pp. 48–49, pl. 2, 12.

whose uncoiled body is stretched out beneath the feet of the galloping horse. The entire image is framed in a pearled circle, and the inscription in the field identifies the figure as St. George.

In several details Muḥammad's coins seem more closely related to those of Roger than to any of the ancient, Byzantine, or other Christian examples that have been traced. Here too the body is nearly in profile and leaning forward, the horse galloping, the serpent's body uncoiled. Although the halo and cape have been omitted, the short skirt and long sleeves are similar; even the markings on the torso may have been intended to indicate armor.

Schlumberger remarked that a number of Islamic princes adopted Roger's coin image.<sup>42</sup> As far as we know, however, Muḥammad was the only Muslim to strike a coin with a mounted figure thrusting his lance into the open jaws of a serpent, and he did so more than half a century later.<sup>43</sup> Whether Roger's coins were still known in nearby Malaṭyah or whether there is a "missing link," is not clear.

#### 4. FAKHR AL-DĪN QĀSIM (A.H. 565–67/A.D. 1170–72)<sup>44</sup>

*Type A*, Plate 17, 7a, 7b.

*Obv.*: Four uneven lines of not particularly fine cursive script encircled by pearled band:

فخرالدين	Fakhr al-Dīn
قاسم بن ذي	Qāsim b. Dhī
القرنين بن	'l-Qarnayn b.
عين الدولة	'Ayn al-Dawlah

*Rev.*: Within pearled circle is large lion, sejant, with r. forepaw raised, head turned slightly toward rear.

<sup>42</sup> Schlumberger (above, n. 41), p. 49.

<sup>43</sup> See section on Chronology below.

<sup>44</sup> Qāsim replaced his exiled brother Muḥammad in 565 but was killed in an accident on his wedding day in 567; J.-B. Chabot, *Chronique de Michel le Syrien*, 4 vols. (Paris, 1899–1910), 3, p. 343 (hereafter, Chabot, *Chronique*). He was succeeded by a third brother, Afridūn, who was driven out in his turn by Muḥammad in 570. Qāsim thus ruled for about two years (Mélikoff, above, n. 2).

The illustrated example, which is from the collection of the Yapı ve Kredi Bankası in Istanbul, has been overstruck on the back of Muhammad's Type A;<sup>45</sup> the large *ḥā'* and following letters of the inscription at the right of the latter can be seen on the haunch of the lion, unfortunately obscuring the arrangement of the tail. On the example published by Casanova, however, the tail curls around the haunch on the near side and waves in the air. Only one hind leg is shown. The surface of the animal's body has been carefully rendered, with short lines for the ribs and hair indicated along the back, around the edge of the haunch, along the belly, and, of course, over the entire neck.

The image appears to have been encircled by a marginal inscription, of which a trace can be seen at the top left (*al-Imām ?*), but it is not well enough preserved to be read.

See: Tevhid, no. 119; Butak, no. 112; Casanova, pl. 4, 5.

Coin examined: YKB, 2.

Sources: This type is one of the few Islamic coins of this period to bear the image of a single animal, and indeed it seems to be the first one to do so. As it appeared at about the same time as Dhū'l-Nūn's Type B (with lion rider), it is possible that the apparent new preference for the beast as a coin image may have arisen from a single source.

Of the three possibilities suggested for Dhū'l-Nūn's coins—ancient coins, Byzantine eulogies (commemorative pieces for pilgrims to a religious shrine), and European ivory game pieces—the second seems a most unlikely source for the present image. Many ancient coins carry lions, but there seems to be none on which the position of the beast is as it is here.<sup>46</sup> The gaming pieces, too, include various animal images and

<sup>45</sup> This was pointed out by Heinz Gaube.

<sup>46</sup> For a striding lion, see the bronze coins of King Amyntas of Galatia (36–25 B.C.), *BMCGalatia*, p. 13, nos. 8–13, pl. 1, 5–7; for a standing lion, see bronze coins from Samosata in 31 B.C.–A.D. 38, pp. 116–17, nos. 1–16, pl. 16, 3–5; for a seated lion, see bronze coins of the second and first centuries B.C. from Pessinus, p. 18, 1–2, pl. 3, 10.

could have served as a source for this coin, but again there seems to be no exact parallel.<sup>47</sup>

The lion was, of course, a prominent feature of Hittite and neo-Hittite sculpture; particularly relevant here are the great lions found flanking the palace gate at Malatyah, where Qāsim's coin was no doubt struck.<sup>48</sup> It is difficult to know how much ancient sculpture was still visible in the twelfth century, but, as the Hittite and neo-Hittite lions are quite unlike the image on Qāsim's coin, they clearly are not directly related.

It seems, then, that, like so many Dānishmendid coin images, this one too for the present defies precise association with a prototype.

### DĀNISHMENDIDS OF KAYSERI

#### 1. 'IMAD AL-DĪN DHŪ'L-NŪN (A.H. 536–70/A.D. 1142–75)

*Type A*, Plate 17, 8.

*Obv.:* Small pearl circle frames inscription of large cursive Arabic characters, not particularly refined:

عَمَاد	'Imād
الدِّين	al-Dīn

In margin between pearl frame and outer plain circle is inscription in Greek uncials, beginning at top l.:

OMEAMHPACΔANOYNHC      The gre(at) amir Dh'al-Nūn<sup>49</sup>

*Rev.:* Composition and frames same as on obverse. Field inscription in Arabic cursive characters:

بْنُ الْمُلْك	b. al-Malik
مُحَمَّد	Muḥammad

<sup>47</sup> For generally similar images, see A. Goldschmidt, *Die Elfenbeinskulpturen aus der romanischen Zeit XI.-XIII. Jahrhundert* 3 (Berlin, 1923), pl. 57.

<sup>48</sup> H. Frankfort, *Art and Architecture of the Ancient Orient*, 4th rev. ed. (Baltimore, 1969), pl. 133A.

<sup>49</sup> In Arabic this inscription would read al-Amīr al-Ka(bīr) Dhū'l-Nūn. A.S chimmel has pointed out, in a personal communication, that Dh'al-Nūn is a more likely reading than Dhā'l-Nūn, reflecting probable local pronunciation.

Marginal inscription in Greek uncials:

OYICTΩΜΕΛΗΚΜΑΧΑΜΑΤΙC the son of Malik Muḥammad<sup>50</sup>

See: Tevhid, nos. 108–10; Artuk, no. 1183; Butak, no. 107; Casanova, pl. 3, 6.

Coins examined: ANS, 4; BM, 2; Fogg Museum (cast at ANS), 1; JSColl, 1; Knobloch (cast at ANS), 1.

*Type B*, Plate 17, 9.

*Obv.*: In plain or pearl circle man rides lion r.; in r. hand sword brandished above his head. Lion has curly hair on chest and shoulders, tail waves erect. Rider wears short garment with long, fitted sleeves and leggings, with leg longer than those of the lion as though bracing himself on ground.

Marginal inscription, enclosed in outer circle, pearl or plain, begins at top r. in Arabic cursive script:

الامير الاسفهانلار الاجل <sup>٥١</sup>	al-Amīr al-İsfahsalār al-Ajall al-
سيد الكبير عماد الدين	Sayyid al-Kabīr 'Imād al-Dīn

*Obv.*: Composition and frames same as on obverse.

Marginal inscription in cursive characters:

نصر الاسلام شيربان بك جبك سور	Naṣr al-Islām Shīrbān <sup>51</sup>
	Bik Jabūk Suwār
ملك الامرا ابو شجاع	Malik al-Umarā' Abū
	Shujā'

<sup>50</sup> The Greek translates exactly the Arabic field inscription.

<sup>51</sup> Artuk has read this word as shahriyār, but shirbān is more likely; this Persian word also makes good sense as part of the titulary. Although the title Shirbān Bik was not a common one, it was also borne by one of the Artuqids of Alpi's generation, Mamdüd ibn Alī ibn Alp Yāruq ibn Artuq, who died in A.H. 566. This reading seems more likely than Shirbarik, as Cahen has it. Ibn al-Azraq, f. 177v.; Cahen, "Le Diyār Bakr au temps des premiers urtukides," *Journal Asiatique* 127 (1935), p. 268.

Field inscription in four lines of cursive script:

الملك	al-Malik
ذالنون بن	Dh'al-Nūn b.
محمد سيف	Muhammad Sayf
امير المؤمنين	Amīr al-Mu'minīn

See: Tevhid, nos. 111–14; Artuk, no. 1184; Butak, no. 108; Casanova, pl. 3, 7.

Coins examined: IAM, 1; YKB, 2; ANS, 6; BM, 4; JSColl., 3.

Sources: The lion rider wielding a sword has proved to be very difficult to trace to its origins. On a number of ancient coins from Cilicia and other parts of Asia Minor Cybele is depicted riding a lion, but she is always seated sideways and, of course, carries no weapons.<sup>52</sup> A closer parallel from ancient times is the image of a naked Eros astride a lion and brandishing a whip, which occurs on a bronze coin struck by Geta (A.D. 209–12) at Pessinus (near modern Bala Hissar) southwest of Ankara.<sup>53</sup> The lion itself is in full profile, with tail lowered and all four feet planted on a ground line, rather than conforming to the circular shape of the coin, as the Dānishmendid lion does.

A more intriguing possibility is raised by a lead disk in the Byzantine Museum at Athens, on which the martyred St. Mamas is represented riding on a lion.<sup>54</sup> The saint wears a long robe, is seated sideways, and carries no weapons in his hands. But the position and details of the lion are very nearly identical with those on Dhū'l-Nūn's coin: the position of the feet, the tail waving behind, the head turned slightly toward the viewer. The image is also encircled by a marginal inscription. Marava-Khatzinkolaou has ascribed this disk to the sixth century on the basis of its epigraphy.<sup>55</sup> What makes it worthy of attention here is that it is a "eulogy," struck as a commemorative piece for pilgrims to a re-

<sup>52</sup> See, for example, *SNGvAulock*, pl. 211, 6148 (photograph mislabeled 6151); *BMCGalatia*, pl. 17, 15.

<sup>53</sup> *BMCGalatia*, p. 23, 29, pl. 4, 11.

<sup>54</sup> A. Marava-Khatzinkolaou, "Euloghia tou Aghiou Mama," *A Delt* 1960, p. 137.

<sup>55</sup> Marava-Khatzinkolaou (above, n. 54), p. 135.

ligious shrine. Until well into the Middle Ages the eastern center of the cult of St. Mamas was Kayseri Caesaria, the city in which Dhū'l-Nūn almost certainly struck his Type B coins. Although there are only a few other mediaeval representations of St. Mamas riding a lion, it is conceivable that such commemorative pieces continued to be distributed at Kayseri into the twelfth century and inspired the Dānishmendid coins.<sup>56</sup>

A third possible source of the lion-rider image is Romanesque Europe. Such figures did occasionally occur, but they were usually representations of Samson. In the Bible story Samson, on the way to his own wedding, strangled the lion with his bare hands, and he is rarely represented with a weapon.<sup>57</sup>

Both Linda Papanicolaou and Charles Little, in personal communications to this writer, remarked on the similarity of the coin image to those on ivory gaming pieces from mediaeval Europe. Although there appear to be no identical images, there are several that seem closely related. One such piece is carved with a man riding on a goat and brandishing an ax.<sup>58</sup> On another, a figure, possibly Samson, is astride a lion whose jaws

<sup>56</sup> E. Kirschbaum and W. Braunfels, eds., *Lexikon der christlichen Ikonographie*, 8 vols. (Rome, Friburg, Basel, and Vienna, 1968–76), hereafter *Lexikon*, specifically vol. 7, pp. 483–85. This subject seems to have been popular in Georgia. For example, see the silver and gilt repoussé disk in the Georgian Museum of Fine Art, S. Amiranashvili, *Georgian Metalwork from Antiquity to the Eighteenth Century* (London and New York, 1971), figs. 19–20; the date is uncertain, but the piece surely belongs to the early Middle Ages. See also one miniature from a copy of the *Works of Gregory Bogoslov*, illustrated at the turn of the thirteenth century in a monastery at David-Garedzhe (Institute of the Academy of Sciences of the Georgian S.S.R., ms. A 109), S. Amiranashvili, *Gruzinskaya Miniatura* (Moscow, 1966), pl. 55.

<sup>57</sup> For examples of figures, including Samson, riding lions, see O. von Falke and E. Mayer, *Romanische Leuchter und gefäße Giessgefässe der Gotik* (Berlin, 1935), p. 83, pls. 36, 83 and 90, 216–17. According to one reference work, Samson is sometimes represented cutting the throat of the lion, but no specific instance of such a representation is mentioned. See H. Sachs, E. Badstübner, and H. Neumann, *Christliche Ikonographie in Stichworten* (Munich, 1975), p. 308. Curiously, Samson is represented stabbing the lion in a relief on the tenth-century Armenian church of Aght'amar on Lake Van, but there he crouches before the beast, rather than straddling it; Der Nersessian (above, n. 29), p. 25, pl. 43.

<sup>58</sup> Goldschmidt (above n. 47), p. 46, pl. 55, 211; V. B. Mann, "Romanesque Ivory Tablemen" (Ph. D. diss., New York University, 1977), pl. 54, 107; 65, 128.

he grips with his hands. His short cape and hair fly out behind.<sup>59</sup> Both these pieces were dated generally to the second half of the twelfth century by Goldschmidt. He reproduced a number of other pieces on which human figures are mounted on various animals, real and fantastic, and brandishing weapons.<sup>60</sup> Gaming pieces, by the way, are just the kind of portable object likely to have been carried into Asia Minor by participants in the Second Crusade.<sup>61</sup>

Dhū'l-Nūn's coin image has something in common with each of the three possible sources suggested, but it is identical to none of them, as far as can be determined at present.<sup>62</sup> But it is notable that the image, once adopted, enjoyed considerable popularity in the Near East: It was copied at Arbil, Mārdīn, and Ḥiṣn Kayfā.<sup>63</sup> In addition, the Crusader Hugues de Gibelet adopted it for his seal, of which there is an impression on a bulla appended to a document of 1248.<sup>64</sup>

*Type C*, Plate 17, 10.

*Obv.*: Pearled or plain circle encloses field inscription in cursive characters in uneven lines.

ناصر الدنيا	Nāṣir al-Dunyā
والدين شرف	wa'l-Dīn <sup>65</sup> Sharaf
الإسلام	al-Islām

<sup>59</sup> Goldschmidt (above, n. 47), p. 47, pl. 55, 217.

<sup>60</sup> Goldschmidt (above, n. 47), pls. 54–56.

<sup>61</sup> There is evidence that some coins from nearby northern Mesopotamia drew their imagery from European sources in this period, see E. J. Whelan, "The Public Figure: Political Iconography in Medieval Mesopotamia" (Ph. D. diss., New York University, 1979).

<sup>62</sup> A. Schimmel, in a personal communication, has called attention to the story of Shaykh Abū'l-Ḥasan Kharraqānī recounted by the thirteenth-century mystical poet Jalāl al-Dīn Rūmī. In the story the Shaykh appears to a disciple, seated atop a bunch of faggots on the back of a lion; he wields a whip that is actually a serpent. See R. A. Nicholson, trans., *The Mathnawī of Jalālu'ddīn Rūmī*, 6 (London, 1934), pp. 376–77.

<sup>63</sup> See respectively coins of Muẓaffar al-Dīn Kūkbūrī, Nāṣir al-Dīn Artuq Arslān of Mārdīn, and Nāṣir al-Dīn Maḥmūd of Kayfā, in *BMCOr* 3, pl. 12, 658; Artuk, no. 1184; *BMCOr* 3, pl. 7, 356.

<sup>64</sup> G. Schlumberger, F. Chalandon, and A. Blanchet, *Sigillographie de l'Oriente latin* (Paris, 1943), p. 45, no. 105, pl. 14, 1. The authors called the animal a "griffin," but it does not have the features of a griffin.

Marginal inscription in larger cursive characters framed by outer plain or pearly circle, begins at top r.:

الملك الأجل السيد الكبير	al-Malik al-Ajall al-Sayyid al-Kabīr
العالم العادل (عماد الدين?)	al-'Ālim al-'Ādil ('Imād al-Dīn?)

*Rev.:* Composition, script, and frames are same as on obverse. Marginal inscription begins at top l.:

نصر الاسلام و المسلمين ملك	Naṣr al-Islām wa'l-Muslimīn Malik
بلاد الروم والا(طوى)	Bilād al-Rūm wa'l-Ana(tūl)

Italicized words sometimes omitted. Field inscriptions again arranged in three uneven lines:

ذالنون بن	Dh'al-Nūn b.
الملك محمد سيف	al-Malik Muḥammad Sayf
امير المؤمن(نين)	Amīr al-Mu'mi(nīn)

See: Tevhid, nos. 115–16; Artuk, no. 1185; Butak, no. 109; Casanova, pl. 3, 8.

Coin examined: ANS, 1.

The presence of Nāṣir al-Dunyā wa'l-Dīn on this coin led Tevhid to assume that Dhū'l-Nūn had changed his surname from 'Imād al-Dīn (see Type B), and subsequent scholars have seemed to agree (for example, Butak, no. 109; Artuk, no. 1185). It is more probable, however, that two different men are mentioned on this coin. The first clue is the presence of two titles with Islām—Sharaf a-Islām in the obverse field and Naṣr al-Islām in the reverse margin—a redundancy that does not normally occur in Islamic titulary.

The standard protocol for Islamic titles was first explored by M. van Berchem, using the anonymous fifteenth-century text generally known as the *Dīwān al-Inshā'*, and Elisséeff has provided an excellent analysis of their use in the second half of the twelfth century in Syria.<sup>65</sup>

<sup>65</sup> M. van Berchem, *Corpus Inscriptionum Arabicarum I*, 3, "Le Caire," pp. 441–50, and N. Elisséeff, "La titulature de Nūr al-Dīn d'après ses inscriptions," *BÉtOrient* 14 (1952–54), pp. 155–96.

According to these sources, the title with Islām always follows the surname portion containing al-Dīn, and it is here that the difficulty with Dhū'l-Nūn's coin arises, for the inscription on the reverse of the coin begins with Naṣr al-Islām, which we know from Type B to have been one of his titles. It should continue from the inscription on the obverse ending in the surname, but unfortunately the end of the obverse marginal inscription cannot be read on any of the examples studied. The remainder of the marginal inscription is quite similar to that on Type B, the major change being the upgrading of al-Amīr al-Isfahsalār to al-Malik. The reasonable expectation, then, is that the end also follows Type B, with the surname 'Imād al-Dīn.

The full protocol would then read: al-Malik al-Ajall al-Sayyid al-Kabīr al-'Ālim al-'Ādil 'Imad al-Dīn Naṣr al-Islām wa'l-Muslimin Malik Bilād al-Rūm wa'l-Ana(ṭūl) Dh'al-Nūn ibn al-Malik Muḥammad Sayf Amīr al-Mu'minīn. This reading conforms in every respect to both the standard Islamic protocol of the period and to the sequence on Dhū'l-Nūn's Type B: obverse margin, reverse margin, reverse field. The obverse field inscription on Type C thus replaces the image of the lion rider on Type B. It is quite brief, consisting only of a surname and one title, but in the proper order. The identity of this Nāṣir al-Dīn is a puzzle, which will be examined in the discussion of chronology below.

### DĀNISHMENDIDS OF SIVAS

#### 1. NİZĀM AL-DĪN YĀGHĪ BASĀN (A.H. 536–59/A.D. 1142–64)

*Type A*, Plate 17, 11.

*Obv.*: In double pearled circle three lines of uneven cursive script:

الملك العادل	al-Malik al-'Ādil
نظام الدين ياغى بسائن	Nizam āl-Dīn Yaghī Basā(n)
بن ملك غاري	b. Malik Ghāzī

On some examples, fleur-de-lis centered below inscription.

*Rev.:* Circle of widely spaced pearls frames bust with head in profile r. Face has sharp chin and large aquiline nose; lips and huge eye turn down at outer corners; ear also quite large. On low forehead rests “diadem” of three rows of “pearls,”<sup>66</sup> with three sections of broad, striped ribbon falling down behind. On some examples only simple band encircles head. Shoulders, in three-quarter view, swathed in richly pleated garment fastened in front below high, wrapped collar. Marginal inscription, in cursive characters, framed by pearly circle:

(بن) ملك دانشمند ظهير امير  
المؤمنين al-Mu'minīn

See: Tevhid, nos. 105-6; Butak, no. 105; Casanova, pl. 3, 9.

Coins examined: IAM, 1; YKB, 3; ANS, 3; BM, 1; JSColl., 1

Sources: This image is rather unskillfully rendered, and it may be partly for that reason that it has been impossible to find a specific model for it. Although the details of garment and diadem are clear, they do not seem to appear on any ancient, Byzantine, Islamic, or Crusader coin. Nor has a survey of other media, including those from both eastern and western Christian circles, been more rewarding. It is conceivable that the die cutter in this instance was working “from the life,” but unfortunately there is no specific detail that would help to confirm this possibility. For the time being, the sources of this type must remain an open question.

## 2. SHAMS AL-DĪN ISMĀ'IL<sup>67</sup> (A.H. 559-67/A.D. 1164-72)

Type A, Plate 17, 12a, 12b.

*Obv.:* In pearly circle, three lines of large cursive script:

الملك العالم	al-Malik al-'Ālim
العادل شمس	al-'Ādil Shams
الدنيا والدين	al-Dunyā wa'l-Dīn

<sup>66</sup> The top row may be curls of hair.

<sup>67</sup> Ismā'īl was a grandson of Yaghī Basān's brother Muḥammad; he married Yaghī Basān's widow and ruled at Sivas after his death.

There are two main variants of this type. On the first the script is unornamented. On the second the script is pointed: There are three points above shin in Shams, one above nūn in Dunyā, and one or two above nūn in Dīn. On one example at the ANS there is a small hook above the 'ayn in 'Ālim.

*Rev.:* Within pearl circle figure seated facing on throne, both feet planted on ground. In margin between pearl circle and outer frame of same kind, inscription in rather large cursive characters:

ابو المظفر اسماعيل بن ابرهيم بن

Abu'l-Muzaffar Ismā'īl b.  
Ibrāhīm b.

محمد ظهير امير المؤمنين

Muhammad Zahīr Amīr, al  
Mu'minīn

On the first variant (not illustrated) the details of the costume are not clear, but on some examples of the second we can recognize a short, patterned caftan with a pearl hem at about knee height. The legs are clad in pantaloons, the feet in boots. The right arm, in a full sleeve that masks the hand, is in position to hold a codex against the chest, but there is no codex; on the second variant the folds of the sleeve are rendered by schematic lines. The left arm is not shown on either variant. The facial features are difficult to make out. On the first variant the shoulder-length hair is parted in the middle; on the second the face is flanked by long braids.

The throne on the first variant has a high back, with an arch-shaped form in the center serving to frame the figure's head. The throne back has a pearl edge, and there is a knob at each upper corner. On each side of the figure parts of two concentric rectangles decorating the surface of the throne back are visible. The seat is also edged by "pearls," and directly above it at the sides are the ends of the cushion on which the figure is seated; the cushion ends are flanked by two additional knobs indicating the arms of the throne. The front legs are indicated by two pairs of plain lines flanking single rows of "pearls." On some versions the field on either side of the image is filled with clusters of two and three dots.

On the second variant, which has pointing in the inscription on the obverse, the image on the back also differs in several details: The throne is outlined by a plain, rather than a pearlled, band; instead of knobs on the back there are pinnacles consisting of clusters of three dots flanking the central arch-shaped frame; similar clusters mark the arms of the throne; the sides of the throne back are now treated in a manner identical to that of the legs; and the entire throne is also slightly splayed, as if viewed through a tilted lens.

See: *BMCOr* 9, no. 675; Tevhid, no. 107; Artuk, no. 1182; Butak, no. 106; Casanova, pl. 6, 4 and 6.

Coins examined: IAM, 1; YKB, 9; ANS, 3; BM, 3; Staatliche Museen zu Berlin (casts at ANS), 3; JSColl., 2.

Sources: The image on this coin was adapted from a billon type struck by Alexius Comnenus in Constantinople after his reform of the coinage in A.D. 1092.<sup>68</sup> On the Byzantine model the image is of the enthroned Christ with halo. In the adaptation, however, the halo has been converted into a part of the throne back, and the codex has been omitted.

The figure on Ismā'il's coins wears a short caftan, pantaloons, and boots, a type of costume that appears to have originated in central Asia and to have penetrated the heartlands of the Near East as early as the Parthian period.<sup>69</sup> In Islamic times, it is found on a stucco sculpture from the facade of the audience hall at Khirbat al Mafjar<sup>70</sup> and on one of the figures decorating wine bottles at Samarra.<sup>71</sup> On a silver medallion of

<sup>68</sup> Hendy (above, n. 12), pl. 7, 4, p. 86. The billon type belongs to Alexius' third coinage.

<sup>69</sup> For one example, see the marble statue of King Sanatruq of Hatra in the Iraq Museum; R. Ghirshman, *Persian Art: The Parthian and Sassanian Dynasties 249 B.C.-A.D. 651* (N.Y., 1962), p. 91, fig. 105. See also E. P. Holmes, "The Representation of Costumes in the Reliefs of Taq-i-Bustan," *Artibus Asiae* 31 (1969), pp. 101-46.

<sup>70</sup> R. W. Hamilton, *Khirbat al-Mafjar: An Arabian Mansion in the Jordan Valley* (Oxford, 1959), p. 228, pl. 55.

<sup>71</sup> E. Herzfeld, *Die Malereien von Samarra* (Berlin, 1927), pl. 69.

al-Muqtadir billāh in the Iraq Museum the mounted horseman wears a short caftan over leggings.<sup>72</sup>

That the short caftan was still current in the twelfth and thirteenth centuries is clear from reliefs on the bridge at Ḥiṣn Kayfā, a niche from Sinjār now in the Iraq Museum, and the gateway to Khān Sinjār.<sup>73</sup> Also in the Iraq Museum are a number of undated clay figurines of the period on which the details of caftan and leggings are quite clear.<sup>74</sup> It appears that this combination was one type of military costume of the period.

The most significant aspect of this Dānishmendid image is the deliberate elimination of the expressly Christian features of the model from which it was copied.

#### CHRONOLOGY

There are very few fixed points in the chronology of the Dānishmendid coins. Type A of Amīr Ghāzī must have been struck not long before his death in 528/1134 and thus at least 15 years before the first figured coins struck in northern Mesopotamia by the Artuqid Timurtāsh of Mārdīn.<sup>75</sup> The single type of Amīr Ghāzī's son Malik Muḥammad must have been issued between 528 and 536.<sup>76</sup> At this point, however, the Dānish-

<sup>72</sup> I. Salmān, "Ṣuwar min Ḥayyāt al-Khalifat al-'Abbāsī al-Muqtadir billāh," ("The Aspects of the Life of the Abbasid Caliph al-Muqtadir billāh. Derived from Two Propaganda Dirhams"), *al-Maskükät* 4 (1973), p. 10, fig. 1, top.

<sup>73</sup> See respectively A. Gabriel, *Voyages archéologiques en Turquie orientale*, 2 (Paris, 1940), pl. 41, 2; G. Reitlinger, "Medieval Antiquities West of Mosul," *Iraq* 5 (1938), pl. 24, 14–15; and Preusser (above, n. 10), pl. 17, bottom (mislabelled).

<sup>74</sup> Apparently, these figurines have not been published.

<sup>75</sup> Nicholas Lowick has sent a photograph of a cast taken from a coin with reverse almost exactly like that of Amīr Ghāzī's Type A but with an Arabic inscription on the obverse in the name of Ḥiyā' al-Dīn, perhaps the Salduqid Ḥiyā' al-Dīn Ghāzī of Erzurum, who died in 526; see F. Sümer, "Saltuklular," *Selçuklu Araştırmaları Dergisi*, 3 (1971), pp. 401–10. If this identification is correct, then it would appear that the initiation of figural copper coinage in the 520s was a broader phenomenon than had previously been supposed and that Arabic inscriptions were adopted in eastern Anatolia from the very beginning.

<sup>76</sup> All events and dates cited here are taken from Mélikoff (above, n. 2), unless otherwise noted.

mendid line split into three branches, and the chronology of the coins becomes less clear.

What follows is largely speculative, based on the assumption that the evolution of the coinage was approximately simultaneous in all three capitals. This assumption is quite arbitrary, but it seems justifiable in that it permits the construction of a coherent pattern of development and thus provides both a point of departure and a target for future attempts to establish Dānishmendid chronology on firmer foundations (see Table 2: Chronological Summary).

At the death of Malik Muḥammad in 536, his brother Yaghī Basān proclaimed himself amīr at Sivas, and another brother, ‘Ayn al-Dawlah, established himself in Malaṭyah and Albistān. Malik Muḥammad’s son Dhū'l-Nūn was able to retain control of Kayseri, however. It is clear both from the coin inscriptions and from our sketchy knowledge of historical events that Yaghī Basān was preeminent among these three until his death in 559, and it might therefore be supposed that he took the lead in issuing coinage.<sup>77</sup>

The assumption of simultaneous evolution, however, suggests a somewhat different pattern. The two Dānishmendid coin types struck before 536 carry only Greek inscriptions. Only one of Malik Muḥammad’s three successors, ‘Ayn al-Dawlah, struck a coin with a completely Greek inscription; he died in 547. We shall therefore tentatively conclude that only Greek types were in circulation until 547.

The next phase appears to have been one in which Greek and Arabic inscriptions were combined. ‘Ayn al-Dawlah’s successor at Malaṭyah, Dhū'l-Qarnayn, struck such a mixed type. This type is particularly important, for it is dated to a second indiction year. The second year of an indiction cycle did fall in Dhū'l-Qarnayn’s reign in A.D. 1158/59,

<sup>77</sup> Among the events supporting this conclusion was Yaghī Basān’s abduction in 554 of a daughter of ‘Izz al-Din Salduq of Erzurum, who was on her way to be married to the Seljuq Qılıç Arslān II; Yaghī Basān married her to his own nephew Dhū'l-Nūn instead, which implies his domination of the latter. Both Sümer (above n. 75), pp. 413–14, and Cahen (above, n. 2), p. 107, place this event in 560 on the basis of the somewhat garbled report of ibn al-Athīr, *al-Kāmil* 11 (Beirut, 1966), p. 317; but, as Yaghī Basān died in 559, that is impossible.

equivalent to A.H. 553/54.<sup>78</sup> This coin also includes an image, the first to occur on Dānishmendid coins since Type A of Amīr Ghāzī about 30 years earlier. Unlike its predecessor, however, Dhū'l-Qarnayn's image was not dependent upon a Byzantine model.

The only other Dānishmendid coin on which Greek and Arabic inscriptions are combined is Type A of Dhū'l-Nūn of Kayseri. Because of these inscriptions and the simple protocol, in which Dhū'l-Nūn claimed only the title of amīr, this coin was probably the earliest of his three known types. Indeed, as it is entirely epigraphic, it can be placed between 547, when pure Greek types came to an end with 'Ayn al-Dawlah's death, and 553/54, when Dhū'l-Qarnayn struck his mixed type with an image.

The first pictorial coin with an inscription entirely in Arabic was probably Type A of Yaghī Basān at Sivas. He was the only one of the Dānishmendid rulers to use the title al-Malik in his lifetime and to adopt a more elaborate protocol, including al-Malik al-'Ādil and Zāhir Amīr al-Mu'minīn.<sup>79</sup> Because an image is present, the inscription entirely in Arabic, and the protocol more complex, it seems probable that this coin was struck after Dhū'l-Qarnayn's mixed type (thus between 553 and 559, when Yaghī Basān died). If this is correct, then Yaghī Basān struck no coins during the first two decades of his rule, which is rather surprising. Nevertheless, there is firm evidence that Dhū'l-Qarnayn waited six or seven years after his succession before issuing coins. It seems fair to conclude that the Dānishmendids did not automatically mark their succession by issuing coins.

Although Yaghī Basān left several sons, none of them succeeded him; instead, his widow married Ismā'il, a nephew of Dhū'l Nūn, and together they attempted to hold the throne. Both were killed in 567. Ismā'il's Type A was thus struck between 559 and 567. It is noteworthy that he adopted for himself the same titles that had been identified with

<sup>78</sup> The Constantinopolitan system of beginning the indiction year on September 1 continued in Anatolia through the Middle Ages. September 1, 1158, fell about the middle of A.H. 553.

<sup>79</sup> These titles appear in expanded form in the only known monumental inscription of Yaghī Basān, which is dated A.H. 552; M. van Berchem (above, n. 1), pp. 85–89.

Yaghī Basāh: al-Malik al-'Ādil, the kunyah Abū'l-Muzaffar,<sup>80</sup> and Zahīr Amīr al-Mu'minīn.

Ismā'īl's reign was one of great unrest, as his succession had stirred up rivalries among his relations and brought the intervention of the Seljūqid Qilij Arslān II. It must have been during this interval that Dhū'l-Nūn struck his Type B. This coin, with an image and a purely Arabic inscription, also contains by far the most complex protocol so far, and it probably could have been issued only after the death of Yaghī Basān in 559. Nevertheless, despite the long string of Arabic, Persian, and Turkish titles, Dhū'l-Nūn still had not risen above the status of al-Amīr al-Isfahsalār.

In 563 Dhū'l-Nūn was driven from his throne at Kayseri by Qilij Arslān and took refuge with the Zankid Nūr al-Dīn of Aleppo. Type B thus probably belongs to the period 559-63.

Upon Ismā'īl's death in 567 Nūr al-Dīn placed Dhū'l-Nūn on the throne at Sivas, with a guarantee of his protection. But Nūr al-Dīn himself died in 569, and Dhū'l-Nūn was again forced to flee, this time to the Emperor Manuel in Constantinople; he was killed in 570. It is most likely that Type C was struck during this interval at Sivas, 567-69. It was only on this type that Dhū'l-Nūn finally asserted his claim to kingship, calling himself al-Malik al-Ajall and reviving his father's old title Malik Bilād al-Rūm wa'l-Anaṭūl.

Meanwhile, in 557 Dhū'l-Qarnayn died at Malaṭyah<sup>81</sup> and was succeeded by his son Nāṣir al-Dīn Muḥammad, who ruled until 565; he was then driven out, and his brothers Qāsim and Afrīdūn ruled in quick succession. In 570, however, Muḥammad returned to the throne of Malaṭyah under the aegis of Qilij Arslān. Aside from Muḥammad's counterstamp on one of his father's coins, we have two types struck in his own name. Type A includes only the simplest statement of his name and genealogy, whereas Type B includes also his kunyah and the title "Naṣir Amīr al-Mu'minīn." Type A almost certainly therefore preceded Type B; it is dated to 558.

<sup>80</sup> Van Berchem (above, n. 1), p. 87, for his reasons for assigning this kunyah to Yaghī Basān.

<sup>81</sup> Cahen (above, n. 2) pp. 100-101, says that he died in 555; Mélikoff's dating is used here.

It seems logical to assign Type B to the period of Muḥammad's restoration (570–73).

One puzzle is whether or not Nāṣir al-Dīn Muḥammad was the person whom Dhū'l-Nūn mentioned on his Type C. It was probably struck between 567 and 569, within the period of Muḥammad's exile from Malaṭyah. Although there is no record of an alliance between these second cousins, it is not impossible that one existed; still, it would have been unusual for a prince to name a lesser figure (other than his designated heir) on his coins. As there are no monumental inscriptions of Nāṣir al-Dīn, we do not know whether or not he bore the title Sharaf al-Islām.

The only other Nāṣir al-Dīn prominent in this period was Nāṣir al-Dīn Muḥammad ibn Salduq, who had come to power in Erzurum in 563. It was his kidnapped sister whom Dhū'l-Nūn had married in 554. Unfortunately, almost nothing else is known about him. If there was an alliance between Sivas and Erzurum at this point, the chronicles do not mention it. Unfortunately, neither the one monumental inscription nor the single coin type of this Nāṣir al-Dīn includes a title of his with Islām.<sup>82</sup>

Neither of these suggestions is very convincing, but there seems to be no other alternative. No Seljūqid, Artuqid, or Zankid, for example, bore the surname "Nāṣir al-Dīn" during this period. In fact, it is curious that none of the Dānishmendids seems to have acknowledged an overlord on his coins, even though most of them owed allegiance to the Seljūqids or the Zankid Nūr al-Dīn at various times.

The results of this attempt to reconstruct Dānishmendid chronology are uncomfortably schematic at several points. It might be argued, for example, that Yaghī Basān's coin type belongs much earlier in his reign and that the mixed types struck at Kayseri and Malaṭyah simply reflect conservatism in those regions. Equally, the three phases that have been outlined—with pure Greek inscriptions, mixed Greek and Arabic inscriptions, and pure Arabic inscriptions—may well have overlapped to a

<sup>82</sup> For his 575 inscription in the Great Mosque at Erzurum, see *Répertoire chronologique d'épigraphie arabe* (Cairo, 1931–64), no. 3349. For the coin see Butak, no. 100; the latter was struck in 585.

degree that has not been acknowledged here. For the moment, however, this reconstruction provides a useful basis for further study and argument about specific points.

TABLE 2  
Chronological Summary

<i>Amīr Ghāzī</i> , at Niksar?		
Type A, before 528		
<i>Malik Muḥammad</i> , probably at Kayseri		
Type A, 528–36		
<i>Malaṭyah</i>	<i>Kayseri</i>	<i>Sivas</i>
'Ayn al-Dawlah		
Type A, 536–47		
	Dhū'l Nūn	
	Type A, 547–53	
Dhū'l Qarnayn		<i>Yaghī Basān</i>
Type A, 553–54		Type A, 553–59
<i>Muhammad</i>		
Type A, 558	Dhū' l Nūn	Ismā'il
Qāsim	Type B, 559–63	Type A, 559–67
Type B, 565–67		Dhū' l-Nūn
<i>Muhammad</i>		Type C, 567–69
Type B, 570–73		

#### A NOTE ON DĀNISHMENDID IMAGERY

Although the Dānishmendids seem to have been among the first to introduce copper coins with images, it was their neighbors to the east of the Euphrates who most fully exploited this medium. The output of the Artuqids and Zankids in particular is much better known, partly because they frequently copied the figures on ancient coins.<sup>83</sup>

It seems that the dynasties of central Anatolia and northern Mesopotamia shared a concern with devising suitable sovereign imagery.<sup>84</sup> The Dānishmendid coins differ in the sources that were available—and preferred—for emulation. None of these coins is based on an ancient

<sup>83</sup> See, for example, S. Lane Poole, *Coins of the Urtukī Turkumans* (London, 1875).

<sup>84</sup> This question has been fully explored in Whelan (above, n. 61).

model; whenever the sources can be traced, they turn out to be Byzantine or occasionally even European objects.<sup>85</sup>

Most of Mesopotamia had been part of the Islamic world since the seventh century, and current Byzantine coins were thus not readily available as models, whereas coins of the ancient rulers of the territory evidently were. Anatolia, on the other hand, had remained part of the Byzantine empire until the invasion of the Turks after 1071. In the mid-twelfth century Greek culture was still predominant in the central region, as the issue of coins first with Greek and then with mixed Greek-Arabic inscriptions attests.<sup>86</sup> Not until 553–59 (1158–64) did a type with an entirely Arabic inscription appear, Yaghī Basān's Type A.

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<sup>85</sup> It is significant that the types likely to owe their imagery to European sources, Types B of Dhū'l-Nūn of Kayseri and Muḥammad of Malaṭyah, were struck in the quarter-century following the crossing of Anatolia by the main body of participants in the Second Crusade, who had many encounters with the Dānishmendids.

<sup>86</sup> Apparently the Seljūqids of Rūm did not begin to issue coins until the mid-twelfth century, when the use of Greek for Islamic inscriptions had been largely abandoned.

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OTTOMAN, ISFENDIYARID,  
AND ERETNID COINAGE:  
A CURRENCY COMMUNITY  
IN FOURTEENTH CENTURY ANATOLIA

(PLATES 18-20)

PHILIP N. REMLER

The fourteenth century coinage of the Turkish *beyliks*, or principalities, provides crucial documentation for the transition from Ilkhānid Mongol to Turkish power in Anatolia. The beylik coinages have not yet been studied systematically. The purpose of this article is to sketch the currencies of three major beyliks and, in analyzing them, to show a close relationship among them, indicating a sort of currency community based on a common origin and close commercial ties.<sup>1</sup>

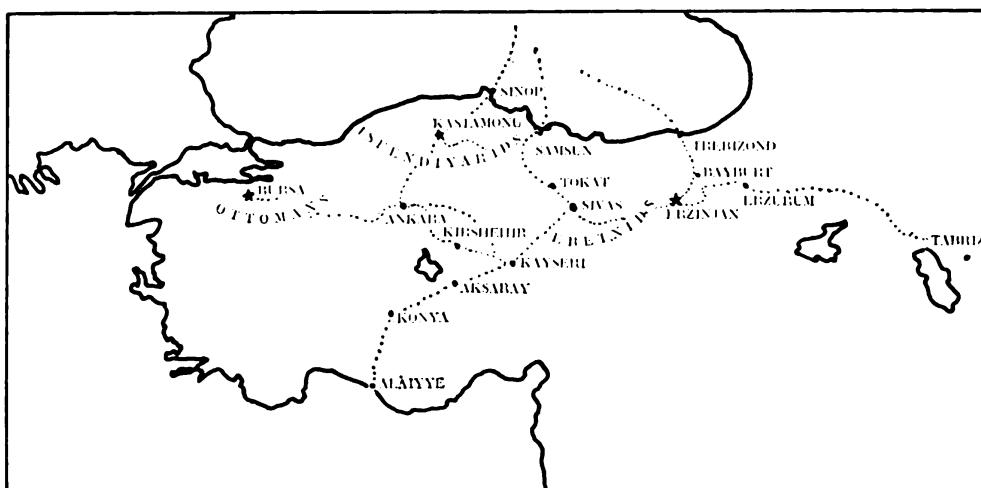
The three beyliks are of the Eretnid, Isfendiyarid, and Ottoman dynasties. The time frame varies from dynasty to dynasty, beginning for all in the reign of the last strong Ilkhān, Abū Sa'īd, and ending with the reigns of the Ottoman Orhan (d. 1362), the Isfendiyarid Kötürüm Bāyezīd (d. 1385), and the Eretnid 'Alā al-Dīn 'Alī (d. 1380).

<sup>1</sup> Most of the research for this article was done during the American Numismatic Society's Graduate Seminar of 1978. I would like to thank the Society for its kindness, and also the British Museum and Ashmolean for allowing me to use their collections. I would especially like to thank Michael Bates of the ANS for his supervision and inspiration, and to acknowledge the help and suggestions of Nicholas Lowick (of the BM) and Robert Doran.

In the heyday of the Mongol empire the major east-west trade route in Anatolia—the *shāh-rāh*, or Royal Road—ran from Tabriz in Iran to Konya, the old Rūm Seljūq capital, and then to southern Anatolian ports such as 'Alā'iyye. When the Ilkhāns lost Konya to the Karamanid Turkish tribesmen a new route became important, running through Erzinjan and Sivās in eastern Anatolia to Ankara and thence west. After the Ottomans conquered Bursa around 1324 it quickly became the western terminus of the route. A second major route ran from the Crimea to the port of Sinop and west. The primary goods carried by these routes were silks and spices—low-volume and high-value commodities.

After Mongol rule faded from Anatolia, beginning in 1327, three beyliks gained control of these routes: Eretna, in eastern Anatolia with its capital at Erzinjan, as heir to the Mongol province of Anatolia; Isfendiyar, centered at Kastamonu; and the Ottomans, facing the West. This paper is an analysis of the typologies of their silver coinages including decorative motifs and types of script, as Uyghūr script (italicized in the catalogue) is sometimes used. A metrological study will be undertaken in a subsequent article.

It is my contention that the silver coinages of all three of these beyliks are interrelated and derived ultimately from Ilkhānid coinage. This derivation is of two types: in the first, a style—usually from further



MAJOR SILK ROUTES OF BEYLIK ANATOLIA — P. Remler.

east—was consciously imitated in a coin of another beylik; in the second, a group of styles, usually Ilkhānid, formed a pool from which beylik types were drawn and redrawn over a period of generations. The first indicates the strength of trade links in the area and their bias in favor of the east. The second indicates the continued prestige and legitimacy of the Mongol empire in Iran and hints at the prevalence of Mongol methods of administration, particularly in coinage.

### ILKHĀNID PROTOTYPES

Eretna Uyghūr, founder of the Eretnid dynasty, was the Mongol lieutenant-governor in Anatolia from 1314 to 1335 and governor there for the puppet Ilkhāns controlled by Ḥasan-i Buzurg Jalāyir from 1335–42. Between A.H. 742 and 746/A.D. 1341–46 Eretna minted coins both in his own name and in those of various Mongol khāns. In 747 he began to issue coins in his own name only.

As chief civilian Mongol official in Anatolia Eretna struck coins of types standard throughout the empire.<sup>2</sup> Certain of these types, occurring in Anatolian mints, are prototypes for later beylik coinage.

#### ABŪ SA'ĪD, TYPE III,<sup>3</sup> 719–21/1319–21

<i>Obv.:</i>	In omega-shape lā ilāha illā Allāh Muḥammad rasūl Allāh	<i>Rev.:</i>	In looped square duriba fī ayyām dawlat al-sultān al-a'ẓam Abū Sa'īd khallada Allāh mulku In loops Ni'am/Allāh/al-naṣr
	Margin fa-sayakfikahum Allāh wa-huwa al-samī' al-'alīm		Margin duriba/(mint and date)

Plate 18, 1: Arzinjān 719/1319, 25 mm, 3.507 g, ANS.

<sup>2</sup> At least 27 Anatolian mints are attested in the coinage of Abū Sa'īd.

<sup>3</sup> The typology of Abū Sa'īd's coinage is according to the system used in I. and C. Artuk, *Istanbul Arkeoloji Müzeleri Teşhirdeki İslāmi Sikkeler Kataloğu* (Istanbul, 1971–74) (henceforth, Artuk). Also cited is *BMCOr* 8.

## ABŪ SA'ID, TYPE VIII, 724-28/1323-28

<i>Obv.:</i>	In square lā ilāha illā Allāh Muhammad rasūl Allāh	<i>Rev.:</i>	In circle dūrība al-sultān Abū Sa'īd Bahādur Khān khulida mulkuhu (mint)
	Margin		Margin
	Abū Bakr/'Umar/'Uthmān/'Alī		fī sana (date)

Plate 18, 2: Sivās 725/1325, 25 mm, 3.517 g, ANS.

## ABŪ SA'ID, TYPE IX, 723-28/1323-28

<i>Obv.:</i>	In looped diamond lā ilāha illā Allāh Muhammad rasūl Allāh	<i>Rev.:</i>	In square al-sultān Abū Sa'īd Bahādur Khān khulida mulkuhu
	Margin		Margin
	Abū Bakr/'Umar/'Uthmān/'Alī		(mint and date)

Plate 18, 3: Ma'dan n.d., 18 mm, 1.469 g, ANS.

## ABŪ SA'ID, TYPE IX, VARIANT

<i>Obv.:</i>	as 3	<i>Rev.:</i>	In looped triangle: as 3
			margin: as 3

Plate 18, 4: ANS.

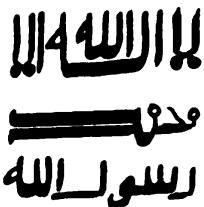
## ABŪ SA'ID, TYPE XII, 729-33/1328-33

<i>Obv.:</i>	In octafoil lā ilāha illā Allāh Muhammad rasūl Allāh	<i>Rev.:</i>	In octagon al-sultān ibn al-sultān Abū Sa'īd Bahādur Khān
	Margin		dūrība (mint) Margin
	Abū Bakr/'Umar/'Uthmān/'Alī		(date)

Plate 18, 5: Sivās 730/1329-30, 21 mm, 3.307 g, ANS.

## ABŪ SA'ID, TYPE XIII, 733-36/1332-35

*Obv.:* shahāda (in decorative  
kufic script)



*Rev.:* al-sultān al-'alīm al-'ādil

duriba  
*Busaida*

Bahādur Khān khulida mulkuhu  
Margin  
(date)

Plate 18, 6: Arzinjān 33 Ilkhāni/1333, 19 mm, 2.833 g, ANS.

The dominant motifs in all these coins are the geometrical fields in various forms. These fields, as well as the distinctive rendition of the shahāda are imitated by beylik coins, as we shall see.

After the death of Abū Sa'īd in 736 Eretna issued coins in the name of some successor Ilkhāns. Although Eretna was by this time virtually independent, these coins are indistinguishable both in style and metrology from coins produced in Iran proper. They also are marked by the geometrical motif. By and large these coins are not significant for the purpose of this study. We shall mention the coins of only two of these rulers as prototypes for beylik coinage.

Coin were struck briefly in 739 in the name of Ṭaghāytimūr, a general who was not in fact descended from Chinggis Khān but from his brother Qājighūn. It is interesting to note that Ṭaghāytimūr actually ruled only in Khurāsān; this coinage in his name indicates first Anatolia's political independence and second the continuity of economic links across the silk route.

## ṬAGHĀYTIMŪR, 739/1338-39

*Obv.:* In hexagon  
lā ilāha illā Allāh  
Muhammad  
rasūl Allāh

*Rev.:* In hexagon  
al-sultān  
al-'alī Ṭaghāytimūr  
khulida mulkuhu  
sana tis' thalāthīn  
wa-saba' mi'a

## Margin

duriba/(mint)/Abū Bakr/'Umar/  
 'Uthmān/'Alī

Plate 18, 7: Arzinjān 739/1338–39, 19 mm, 2.035 g, ANS.

The last nominal Ilkhān for whom Eretna struck coins was Sulaymān, whose coins appeared between 740 and 746. These were issued in two types, apparently simultaneously.

## SULAYMĀN, TYPE I

<i>Obv.:</i> In hexafoil	<i>Rev.:</i> In eye-shape
lā ilāha illā Allāh	al-sultān
Muhammad	<i>Sulaymān</i>
rasūl Allāh	khulida mulkuhu
Margin	Margin
Abū Bakr/'Umar/'Uthmān/'Alī	(mint and date)

Plate 18, 8: Arzarūm 741/1340–41, 18 mm, 1.252 g, ANS.

## SULAYMĀN, TYPE II

<i>Obv.:</i> In octafoil	<i>Rev.:</i> In octafoil
lā ilāha illā Allāh	al-sultān al-'ālī
Muhammad	<i>Sulaymān</i>
rasūl Allāh	khallada Allāh mulkuhu
Margin	Margin
Abū Bakr/'Umar/'Uthmān/'Alī	(mint and date)

Plate 18, 9: Arzarūm 743/1342–43, 19 mm, 1.385 g, ANS

## ERETNID COINAGE

Sulaymān, Type II, provides a direct transition to Eretnid coinage, for Eretna issued it under his own name as well, presumably at the same period.

## ERETNA, TYPE I

<i>Obv.:</i>	In octafoil lā ilāha illā Allāh Muhammad rasūl Allāh	<i>Rev.:</i>	In octafoil duriba <i>sultan</i> <i>Eretna</i> khallada Allāh mulkahu Qirshahir
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Plate 19, 10: Qirshahir n.d., 20 mm, 1.396 g, ANS.

Another type, issued by Eretna while he was also issuing coins for Sulaymān, uses the hexafoil of the Sulaymān Type I as the reverse, and derives its square obverse from the Abū Sa'īd Type VIII (Plate 18, 2), a traditional motif which dates back to the coinage of Abū Sa'īd's predecessor Uljāytū.

## ERETNA, TYPE II, CA. 742/1341–42

<i>Obv.:</i>	In square lā ilāha illā Allāh Muhammad rasūl Allāh	<i>Rev.:</i>	In hexafoil duriba <i>sultan</i> <i>Eretna</i> khallada Allāh mulkahu (mint)
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Margin  
(date)

## ANS coins:

Aqshahir (Aqsaray)	742	22 mm	1.635 g	Plate 19, 11
Anqariyya	742	21 mm	1.705 g	
Anqariyya	747	20 mm	1.486 g	
Baybirt	7xx	21 mm	1.670 g	
Ma'dan	74x	22 mm	1.453 g	

The coinage issued by Eretna after he began to strike in his own name only is of a completely different type, but squarely within traditional bounds. The new style is derived in its obverse from the looped square of the common Abū Sa'īd Type III, and the hexagram reverse is drawn from Isfendiyarid coinage discussed below.

## EREINA, TYPE III, 747-53/1346-52

<i>Obv.:</i>	In looped square lā ilāha illā Allāh Muhammad rasūl Allāh	<i>Rev.:</i>	In hexagram <i>Ereina</i> khallada Allāh mulkahu
Margin (mint and date)			

## ANS coins:

Arzinjān	752	20 mm	1.758 g
Arzinjān	749	19 mm	1.757 g
Arzinjān	747	18 mm	1.776 g
Arzinjān	751	18 mm	1.726 g
Sivās	747? 749?	18 mm	1.786 g
Qarāhiṣār	x	16 mm	0.882 g
Kughūniyye	n.d. <sup>4</sup>	19 mm	1.750 g, Plate 19, 12
Kik	x	19 mm	1.773 g, mint in hexagram
Kik?	x	20 mm	1.757 g, mint in hexagram
Ankariyye	x4x	20 mm	1.773 g, mint in hexagram
Qayṣariyye	x4x	20 mm	1.748 g, mint in hexagram
Ma'dan	748	20 mm	1.726 g, mint in hexagram
x	74x	19 mm	1.754 g
x	74x	18 mm	1.568 g
x	75x	22 mm	1.509 g
x	x	16 mm	0.732 g
x (barbarous)	x	19 mm	1.654 g
x (barbarous)	x	13 mm	0.551 g
x (double str.)	x	17 mm	1.650 g

Coin imitating the Sulaymān Type I and bearing Eretna's regnal epithet '*Alā al-Dīn*' were struck in Eretnid cities; normally one would assume these dated from the 742-47/1341-47 period. Certain specimens are dated after Eretna's death in 753, however, and bear dates

<sup>4</sup> This specimen carries as marginal inscription the four rāshidūn (i.e. earliest caliphs, Abū Bakr, 'Umar, 'Uthmān, and 'Ali) instead of a date; the mint is inside the hexagram.

in the mid-750s, such as the one specimen in the Ashmolean Museum dated x56. Since Eretna's son Muḥammad succeeded as a minor we may conclude that these comprise a posthumous issue.

#### ERETNA, TYPE IV (POSTHUMOUS)

<i>Obv.:</i> as Sulaymān Type I	<i>Rev.:</i> In eye-shape al-sultān al-‘ādil ‘alā al-dunyā wa-l-dīn khallada Allāh mulkahu Margin (mint and date)
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Plate 19, 13: x, x, 21 mm, 1.715 g, ANS.

The coins of Eretna's successors Muḥammad (753–67) and ‘Alā al-Dīn ‘Alī (767–82) fall within the Mongol tradition. While Muḥammad makes some innovation within this tradition, ‘Alī draws on old motifs.

#### MUHAMMAD

<i>Obv.:</i> In trefoil foils Abū Bakr/‘Umar/‘Uthman In trefoil center ‘Alī	<i>Rev.:</i> In circle duriba (some specimens) Muḥammad Aratnā al-sultān al-a‘ẓam Ghiyāth al-dunyā wa-l-dīn khallada Allāh mulkahu (mint)
Margin lā ilāha illā Allāh/Muḥammad/ rasūl Allāh	

#### ANS coins:

Arzinjān	n.d.	15 mm	0.863 g
Aqsarāy	n.d.	20 mm	1.522 g
Baybirt	n.d.	19 mm	1.393 g
Sivās	n.d.	19 mm	1.439 g
Sivās	n.d.	19 mm	1.365 g
Qaysariyye	n.d.	20 mm	1.800 g, Plate 19, 14.
Ma‘dan Gümüşpazar	n.d.	20 mm	1.782 g

x	n.d.	21 mm	1.746 g
x	n.d.	20 mm	1.543 g
x	n.d.	19 mm	1.657 g
x	n.d.	19 mm	1.505 g

## 'ALĀ AL-DĪN 'ALĪ

*Obv.: In square inside looped square*

lā ilāha illā Allāh  
Muhammad  
rasūl Allah

In loops of square

Abū Bakr/'Umar/'Uthman/'Ali

*Rev.: In octafoil.*

al-sultān al-a'zam  
'alā al-dunyā wa-l-dīn  
khallada Allāh mulkahu  
(mint)  
(date in numerals)

'Alī's looped square has as its prototype the motif of his grandfather Eretna which in turn goes back to the Abū Sa'īd Type III. Similarly the octafoil likewise goes back to the Ilkhān Sulaymān Type II and before that to the Abū Sa'īd Type XII. Known dates for 'Alī's coins are 767 and 768. Sometime in 768 the word *Allāh* in the phrase *khallada Allāh mulkahu* was enclosed in an eye-shaped group of dots. That this symbol had some significance is shown by 'Alī's practice of counter-stamping his older coins with the same symbol.

ANS coins (asterisk indicates issues with eye-shaped dots):

Arzinjan	768	19 mm	1.597 g, cstp.
Arzinjan	76x	19 mm	1.554 g
Arzinjan	x	19 mm	1.144 g
Arzinjan	768?	18 mm	1.431 g
Arzinjan	767	19 mm	1.573 g, Plate 19, 15
Arzinjan	768	19 mm	1.415 g
Arzinjan	x	19 mm	1.472 g*
Arzinjan	768	20 mm	1.571 g*, Plate 19, 16
Arzinjan	x	20 mm	1.436 g*
Baybirt	767	19 mm	1.696 g
x	x	16 mm	1.017 g
x	x	23 mm	1.525 g*
x	x	19 mm	1.453 g*, cstp.
x	x	18 mm	1.499 g*

x (barbarous)	x	19 mm	1.520 g*
x	x	20 mm	1.521 g*
x	x	18 mm	1.306 g*, cstp., Plate 19, 17

## ISFENDIYARID COINAGE

We now turn to the currency of the Isfendiyarid dynasty of northern Anatolia, which has not been schematized chronologically.

Süleyman I Pasha, who conquered the cities of Qaṣṭamūniyye (Kastamonu) in 1309 and Sinop in 1322, was the first important ruler of this dynasty. That he issued coins in the name of Abū Sa'īd is attested by an ANS coin of the Abū Sa'īd Type IX from Qaṣṭamūniyye clearly dated 725/1325. As Süleyman's coinage is not dated we can only guess when he began his own *sikke*. Uzunçarsılı<sup>5</sup> believes this is not until 1335, the year of Abū Sa'īd's death; it could, however, have been as early as 1327, the end of effective Mongol rule in western Anatolia and the year of the earliest Ottoman coinage.

Four types may be ascribed to Süleyman I. Three are definitely linked in a stylistic sequence; the fourth may possibly belong to the later Isfendiyarid ruler Süleyman II as its fabric and certainly its weight standard are somewhat different. The similarity in the style of reverse inscription would militate against this, however, and place this type in the coinage of Süleyman I.

## SÜLEYMAN I, TYPE I

*Obv.:* In square

lā ilāha illā Allāh  
Muhammad  
rasūl Allāh

*Rev.:* In square

Sulaymān  
zīda mulkuhu

ANS coins, no mints, no dates:

17 mm	1.092 g	16 mm	1.143 g
15 mm	1.029 g, Plate 19, 18	16 mm	1.120 g

<sup>5</sup> I. H. Uzunçarsılı, *Anadolu Beylikleri* (Ankara, 1969), p. 122.

14 mm	1.188 g	16 mm	1.110 g
16 mm	1.051 g	15 mm	1.182 g

This coin is very interesting in several respects. As to its prototype, this is clearly a crude imitation of the very common Abū Sa'īd Type VIII (Plate 18, 2). Its very crudeness confirms this as the earliest of Süleyman's issues. Also its almost unrecognizable formalized rendition of the word *mulkuhu* as W will turn up later in Ottoman coinage; the inscription here mandates the reading of *mulkuhu*.

Süleyman's second type is midway between his Types I and III, the most common of his issues. Type II leaves the inscriptions the same but replaces the obverse square with a hexagram, possibly derived from Golden Horde prototypes.<sup>6</sup> This hexagram in Isfendiyarid coinage is itself the prototype for the later Eretna Type III (Plate 19, 12); this is the only instance of west-to-east stylistic borrowing.

#### SÜLEYMAN I, TYPE II

*Obv.:* In hexagram

lā ilāha illā Allāh  
Muhammad  
rasūl Allāh

*Rev.:* As Type 1

ANS coins, no mints, no dates:

16 mm	1.288 g
15 mm	1.272 g

Type III is identical in motif to Type II but changes the reverse inscription.

#### SÜLEYMAN I, TYPE III

*Obv.:* As Type II

*Rev.:* In square

Amīr-i a'dal  
Sulaymān  
khulida mulkuhu

<sup>6</sup> See the coinage of Tele Buqā (686-89/1287-90).

ANS coins, no mints, no dates:

11 mm	0.647 g	16 mm	1.258 g
11 mm	0.634 g	15 mm	1.282 g
15 mm	1.313 g	15 mm	1.294 g
17 mm	1.273 g	16 mm	1.395 g
15 mm	1.272 g	17 mm	1.321 g,
15 mm	1.293 g		Plate 19, 19
16 mm	1.231 g	16 mm	1.232 g
17 mm	1.273 g	15 mm	1.287 g
16 mm	1.184 g	16 mm	1.272 g
15 mm	1.259 g	16 mm	1.280 g
16 mm	1.316 g	15 mm	1.299 g
16 mm	1.325 g		

The fourth type ascribed to Süleyman I retains the titulature on the reverse of Type III but replaces the motifs with an obverse hexafoil and a reverse looped square which imitates the Abū Sa'īd Type III (Plate 18, 1).

#### SÜLEYMAN I, TYPE IV

*Obv.:* In hexafoil  
 la ilāha illā Allāh  
 ——————  
 Muḥammad  
 ——————  
 rasūl Allāh

*Rev.:* In looped square  
 amīr-i a'dal  
 ——————  
 Sulaymān  
 ——————  
 khalada mulkuhu

ANS coins, no mints, no dates.

15 mm	1.450 g	16 mm	1.511 g
17 mm	1.495 g	15 mm	1.506 g
16 mm	1.447 g	16 mm	1.501 g
15 mm	1.504 g, Plate 20, 20		

Süleyman I was dethroned around 1340, but the coinage of his son and successor Ibrahim (1340–45) has not been identified. The coins of the next two rulers, 'Ādil Bey (1345–62) and his son Bayezid Kötürüm (1362–85), revert to the squares of the Süleyman I Type I, but much more finely worked.

## 'ĀDIL

*Obv.:* In square  
lā ilāha illā Allāh  
Muhammad  
rasūl Allāh

*Rev.:* In square  
al-sultān al-a'ẓam  
khallada Allāh  
mulkahu (mint)  
Margin  
(date) or decorations

## ANS coins:

Qaṣṭamūniyye	x	13 mm	0.998 g
Qaṣṭamūniyye	x	13 mm	0.988 g
Qaṣṭamūniyye	x	12 mm	0.952 g, Plate 20, 21
x (barbarous)	x	14 mm	0.882 g
Sinūp	x	13 mm	0.986 g

The coinage of 'Ādil Bey is anonymous and has been identified tentatively through dates,<sup>7</sup> and through its similarity to the coinage of his son Bayezid. The titles 'Ādil Bey uses, i.e. *al-Sultān al-a'ẓam*, most puissant sultan, and even the anonymity of the coins show that they are conscious imitations of Abū Sa'īd's coinage, especially his Type VIII (Plate 18, 2). Bayezid more realistically styled himself "the just amīr."

## BAYEZID

*Obv.:* In square  
lā ilāha illā Allāh  
Muhammad  
rasūl Allāh  
Exergue  
(date in numerals)

*Rev.:* In square  
amīr-i a'dal  
Bāyazīd khulida  
mulkahu (mint)

## ANS coins:

Qaṣṭamūniyye	x	16 mm	1.746 g
Qaṣṭamūniyye	x	16 mm	1.795 g
Qaṣṭamūniyye	x	15 mm	1.732 g
Qaṣṭamūniyye	x	16 mm	1.741 g

<sup>7</sup> See Artuk, 1, nos. 1366-68.

Qaṣṭamūniyye	x	16 mm	1.822 g
Qaṣṭamūniyye	x	16 mm	1.752 g
Qaṣṭamūniyye	761	12 mm	0.881 g, Plate 20, 22
Qaṣṭamūniyye	x	15 mm	1.769 g
Qaṣṭamūniyye	x	18 mm	1.718 g
Qaṣṭamūniyye	x	15 mm	1.783 g
Qaṣṭamūniyye	x	16 mm	1.713 g
Qaṣṭamūniyye	x	16 mm	1.719 g
Qaṣṭamūniyye	x	15 mm	1.749 g
Qaṣṭamūniyye	x	16 mm	1.764 g
Qaṣṭamūniyye	x	16 mm	1.750 g

## THE OTTOMAN COINAGE OF ORHAN

The silver coinage of Orhan, the second Ottoman sultan and the first to strike coins, has been described a number of times without an adequate systemization or chronology. The following is an ordered catalogue of Orhan's coins with probable dates.

The oldest extant Ottoman type is evidently a coin in the collection of the Yapı ve Kredi Bankası collection clearly dated 727. This is the year of the fall of the Mongol governor of Anatolia, Timūrtāsh bin Chobān, and the consequent retreat of Mongol power from western Anatolia. This type is clearly derived from the Abū Sa'īd Type IX (Plate 18, 3). As mentioned above, p. 177, coins of this type were minted at least in 725 in nearby Qaṣṭamūniyye, showing that the design was known in western Anatolia. The workmanship on the Yapı ve Kredi Bankası coin and others of this type is of such high quality (higher than later issues of Orhan's) that we may speculate he hired a die sinker from one of the older Ilkhānid mints.

## ORHAN, TYPE I

*Obv.:* In square

lā ilāha illā Allāh  
Muhammad  
rasūl Allāh

*Rev.:* In looped diamond

khulida  
duriba  
Ūrkhān bin 'Uthmān  
Bursā  
mulkuhu

Margin  
Abū Bakr/'Umar/'Uthmān/'Alī

Margin (date)



**Coin:**

Yapı ve Kredi Bankası:	Bursā	727	18 mm	1.00 g	Plate, 20, 23
British Museum					
1967-1-12-553:	n.m.,	n.d.	18 mm	0.91 g	

Ashmolean Museum: n.m., n.d. 1.056 g

This coin has not been read correctly previously. The phrases on the reverse are symmetrically displayed on the coin, i.e. *khulida* on top is paired with *mulkuhu* on the bottom; likewise *duriba* and *Bursā*. The word *khulida* is somewhat faint, and the word *mulkuhu* is rendered in exactly the same stylized manner as in the Süleyman Types I and II (see above, p. 178). This reading is the only one which interprets the inscriptions in a grammatically sound way consistent with their appearance.

By analyzing stylistic similarities among Orhan's other issues and coins of other dynasties we may derive a chronological sequence of types.

#### ORHAN, TYPE II

*Ov.*: al-imām

*Rev.*: [Bism] Allāh al-rahmān

al-mustanṣir

[al-rahīm]

billāh amīr [al-mu'minīn]

Ūrkhan bin 'Uthmān a-  
'izz Allāh naṣrahu

Two specimens of this type are published by Şerafettin Erel in his *Nâdir Birkaç Sikke*, 3:<sup>8</sup>

No. 61 Bursa n.d. 20 mm 1.20 g

No. 62 n.m. n.d. 19 mm 1.15 g, Plate 20, 24.

<sup>8</sup> Ş. Erel, *Nâdir Birkaç Sikke*, 1-4 (Istanbul, 1963-73).

This coin is an imitation of the coinage of the Rūm Seljūq Sultān Kay Qubād I, as illustrated in Plate 20, 25, struck in Sivās in 629.<sup>9</sup> One characteristic places this type clearly at the beginning of a series of issues. Below, left, is a drawing of the coin's rendition of the name 'Uthmān on the reverse. To the right is a stylization of this name clearly derived from this rendition. This stylization is characteristic of a later series of Orhan's coins, as shall be shown. As the least stylized version of this rendition of 'Uthmān, Type II must be placed at the beginning of the series.



As to the historical significance of imitating a coin one hundred years old, and acknowledging a caliph long since dead, we can only speculate that a gesture of loyalty to the caliphate which the Mongols had destroyed was intended as a sort of declaration of independence.

The next type is linked to Orhan Type II by its script and the distinctive rendition of the word 'Uthmān, as discussed above. As an imitation of the Abū Sa'id Type XIII (Plate 18, 6) it may be assigned a date in the 1330s.

#### ORHAN, TYPE III

*Obv.:* In circle

lā ilāha illā Allāh  
Muhammad  
rasūl Allāh  
Margin  
Abū Bakr/'Umar/'Uthmān/'Alī

*Rev.:* In circle

al-sultān al-a'ẓam  
Ūrkhān bin 'Uthmān  
khallada Allāh mulkahu  
Margin  
Madīnat/Brūse (?)

#### Coin:

ANS	Brūse	n.d.	15 mm	1.036 g.
ANS	Brūse	n.d.	15 mm	1.106 g, Plate 20, 26
Istanbul	Brūse	n.d.	15 mm	1.15 g
<i>BMCOr</i> , 8, 69, n.m.		n.d.		1.24 g

<sup>9</sup> I wish to thank Nicholas Lowick of the British Museum for pointing out this resemblance.

Once again the stylized rendition of the name 'Uthmān provides a link to another type. Type IV can be roughly dated because of its close imitation of coinages from further east; specifically, Orhan Type IV derives its reverse hexagon from the coinage of Ṭaghāytimūr (Plate 18, 7) and its obverse hexafoil from the Sulaymān Type I (Plate 18, 8), clearly providing us with a terminus post quem of around 1342 and a probable date very close to that.<sup>10</sup>

#### ORHAN TYPE IV

*Obv.:* In hexafoil

lā ilāha illā Allāh  
Muḥammad  
rasūl Allāh  
Margin  
Abū Bakr/'Umar/'Uthmān/'Alī

*Rev.:* In hexagon

al-sultān al-a'dal  
Ūrkhān bin 'Uthmān  
khallada Allāh mulkahu

Coin:

*BMCOrl.* 8, 75 n.m. n.d. 15 mm 0.86 g, Plate 20, 27

The next development, Orhan Type V, is composed of two variants, both of which differ from Type IV mainly in that the name 'Uthmān is now written in a clear as opposed to a stylized manner. One variant retains the hexafoil obverse but changes to a hexafoil reverse as well, while the other variant retains the hexagon reverse but changes to an octafoil obverse. It seems clear that these are individual variations in what was meant to be one type.

<sup>10</sup> In the Istanbul Yapı ve Kredi Bankası publication no. 5, *Nadir Osmanlı Madeni Paraları* (Istanbul, 1973), a coin of Orhan's has been published which seems anomalous. Dated, according to the article, 727/1357, the coin's design is identical to Orhan IV, assigned here to the 1340s, with the exception that the coin's reverse has a looped triangle, as in the Abū Sa'id Type IX, variant (Plate 18, 3), instead of the hexagon in Orhan Type IV. Without the date the coin would fit perfectly as a transitional form incorporating elements of Mongol coinage of both the 1320s and 1340s, i.e. Abū Sa'id's looped triangle and the hexafoil of Sulaymān Type I (Plate 18, 8).

A date of 1327 would not only break the evident linkage between Orhan Type IV and the coins of Sulaymān and Eretna by making it antedate them, but would also make it impossible to place Orhan Types II and III within a chronological sequence of types. No date is evident in the photograph of the coin; therefore the present sequence will stand pending examination of the bank's collection.

## ORHAN TYPE V

<i>Obv.:</i> In hexafoil or octafoil lā ilāha illā Allāh Muhammad rasūl Allāh Margin Abū Bakr/'Umar/'Uthmān/'Alī	<i>Rev.:</i> In hexafoil or hexagon al-sultān al-a'dal Ūrkhan bin 'Uthmān khallada Allāh mulkahu
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ANS coins, no mints, no dates:

Var. A	19 mm	1.211 g
A	18 mm	1.045 g
A	16 mm	1.079 g
A	16 mm	1.172 g, Plate 20, 28
B	19 mm	1.102 g
B	16 mm	0.763 g, clipped

These coins, then, may also date to the 1340s and possibly the 1350s. It is probable that Orhan Type VI was issued towards the very end of the reign; it is identical except in name to the earliest issues of Orhan's successor Murad I. This type inaugurates a new uniform style, unrelated to previous types, which endured in Ottoman coinage until the conquest by Timur in 1402.

## ORHAN TYPE VI

<i>Obv.:</i> In circle lā ilāha illā Allāh Muhammad rasūl Allāh Margin Abū Bakr/'Umar/'Uthmān/'Alī	<i>Rev.:</i> In circle Ūrkhan khallada Allāh mulkahu
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ANS coin:

n.m., n.d. 19 mm 0.869 g, clipped, Plate 20, 29

## CONCLUSIONS

Table I, Typology Chart, gives a schematic representation of the relationships detailed in the previous sections. The chart shows clearly the two types of influence mentioned earlier. Taking the Mongol "pool" of

motifs first, the most long-lived and often-used design is the “looped square” of the Abū Sa‘īd Type III of the 1320s (Plate 18, 1) which reappears in the 1330s with the Isfendiyarid Süleyman Type IV (Plate 20, 20), in the late 1340s in the Eretna Type III (Plate 19, 12), and still later in the 1360s with the coinage of the Eretnid ‘Alā al-Dīn ‘Alī (Plate 19, 15). Similarly the octafoil of the Abū Sa‘īd Type XII (Plate 18, 5) of the late 1320s reappears in the 1340s on the coinage of the Ilkhānid Sulaymān Type II (Plate 18, 9) and a generation later on the Eretnid ‘Alā al-Dīn ‘Alī Type (Plate 19, 15). Most striking is the direct imitative revival of the Ilkhanid Sulaymān Type I (Plate 18, 8) of the early 1340s in the posthumous coinage of Eretna, Type IV (Plate 19, 13) dated in the 1350s.

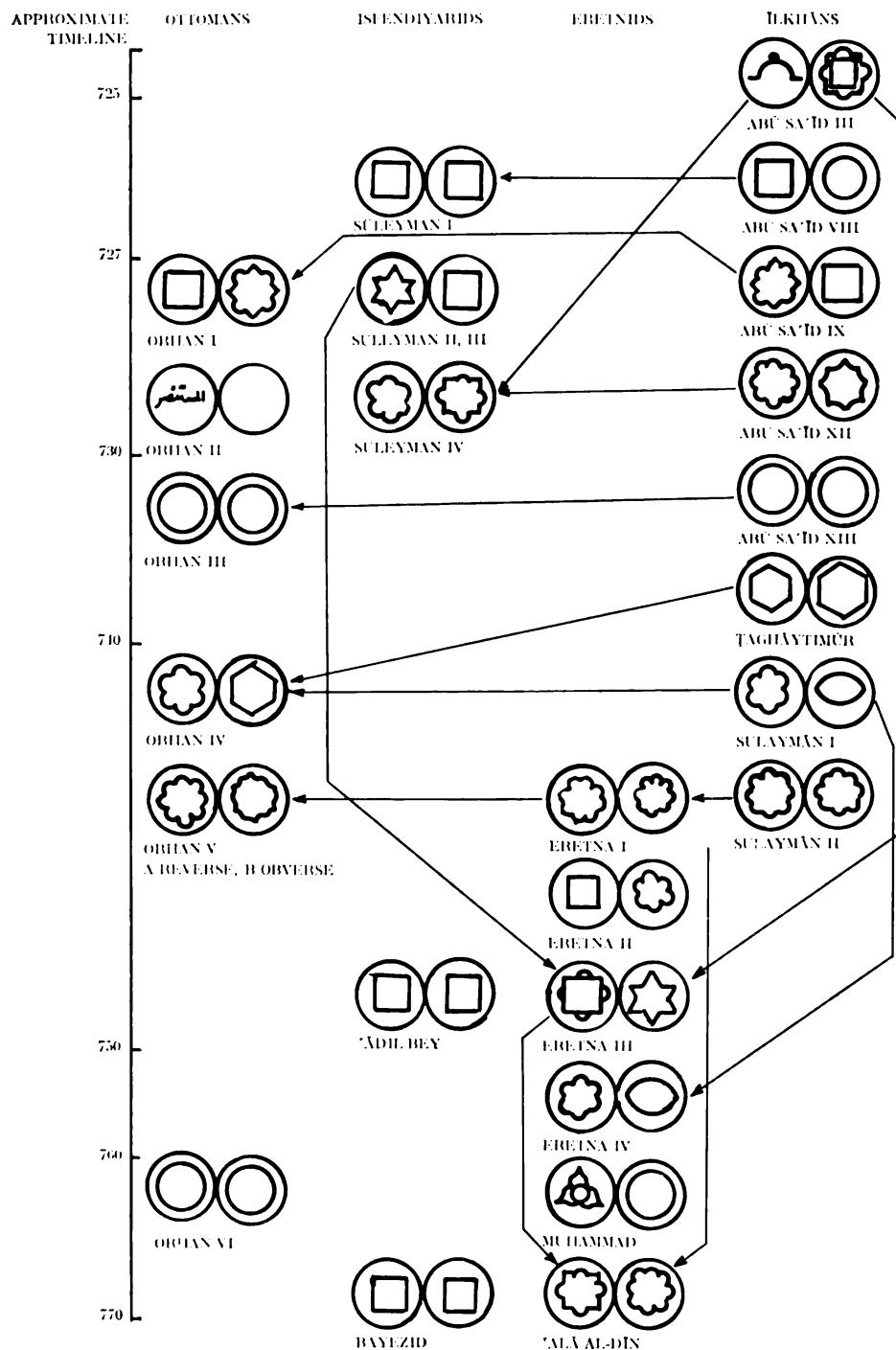
Second are the east-to-west imitations: of the Abū Sa‘īd Type VIII (Plate 18, 2) by the Isfendiyarid Süleyman Type I (Plate 19, 18); of the Abū Sa‘īd Type IX (Plate 18, 3) by the Ottoman Orhan I (Plate 20, 23); of the Abū Sa‘īd Type XIII (Plate 18, 6) by the Ottoman Orhan Type III (Plate 20, 26); and of the Ilkhānid Sulaymān Type II by Eretna Type I; of the Abū Sa‘īd Type XII (Plate 18, 5) by Ilkhanid Ṭaghāytimür (Plate 18, 7), and Ilkhanid Sulaymān Type I (Plate 18, 8) as in the Orhan Types IV and V (Plate 20, 27 and 28).

These two strong patterns give rise to two conclusions: first, Mongol coinage continued to influence beylik coinage after political independence had been achieved by the latter; and second the western beyliks were dependent upon the trade from the east, and remained in that economic sphere.

The first conclusion has major ramifications: it indicates that Mongol currency administration was also adopted by the beyliks. This is important in analyzing Mongol metrology, for there is extensive documentation for early Ottoman currency practices,<sup>11</sup> and this knowledge may be used to help clarify the still misunderstood system of Ilkhānid metrology. Conversely, linking Ottoman currency to the Mongol system and the other beylik systems helps explain the origins of Ottoman coinage and of its weight standard.

<sup>11</sup> See El<sup>2</sup>, s.v. “Dar al-Darb” (Inalcik), and N. Beldiceanu, *Les actes des premiers sultans conservés dans les manuscrits turcs de la Bibliothèque Nationale à Paris, 2: Règlements miniers 1390–1512* (Paris/La Haye, 1964).

TABLE I  
Typology Chart.



The second conclusion, of borrowings by the west from the east, with a commonalty of types, shows the existence of a currency community in beylik Anatolia within the complex of post-Mongol currency areas,<sup>12</sup> held together by the east-west silk trade. This focus on the importance of the silk route highlights the dependence of the early Ottoman economy on this trade for its phenomenal growth.

When the celebrated Arab traveler Ibn Baṭṭūṭa visited Bursa in 1333—before the era of the great conquests — Orhan was already the richest of the Anatolian amirs.<sup>13</sup> This wealth was due to the silk trade, whose western terminus in Asia was Bursa, the Ottoman capital. We must stress the role of the silk trade in the development of beylik Anatolia and ultimately of the Ottoman empire. This importance is underlined by the numismatic evidence.

In a more modest and numismatic vein, the comparison of types helps determine a sequence and approximate dating for the beylik coinages, especially the Ottoman coinage of Orhan. Orhan's coins are, initially, an imitation of Mongol coinage, maintained through the 1330s and 1340s with the exception of the imitation Seljūq type. Finally, sometime around 1360, an indigenous bureaucratic Ottoman coinage was developed. This development reflected the new Ottoman status: facing Europe and imperial expansion.

<sup>12</sup> See S. Album, "The Iranian Monetary System of the Fourteenth Century: a Preliminary Discussion" (unpublished).

<sup>13</sup> *The Travels of Ibn Baṭṭūṭa*, trans. H. A. R. Gibb, 1 (London, 1956), pp.450–52.

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## THE BOLIVIAN MONETARY MEDAL

(PLATES 21-23)

RICHARD G. DOTY

Nineteenth-century Bolivia witnessed the flourishing of two distinct numismatic media. One of them was ordinary coinage, and coinage in Bolivia definitely reflected general trends in Latin America as a whole. Bolivia's first national coinage was based on the old Spanish-American eight reales and its subdivisions, as were the first coinages of Mexico, Perú, and the other newly independent nations. Bolivian coinage was decimalized in 1863, and this act, too, reflected events elsewhere: Mexico made her first serious attempt at producing a decimal coinage that same year, and so did Bolivia's neighbor, Perú.

However, Bolivia's second numismatic medium, proclamation pieces, was by no means orthodox and, far from repeating trends seen elsewhere, reflected a set of political and socio-economic realities unique to that country.

Bolivian proclamation pieces are ordinarily made of silver, although a few specimens are known in gold. They come in a variety of sizes, and they commemorate various events, pay homage to Bolivia's presidents, etc. The Bolivian term *medalla monetaria*—monetary medal—describes them more accurately, since the pieces don't necessarily "proclaim" anything. It also underscores the unique nature of this second Bolivian numismatic medium: as will be demonstrated, the monetary medals were intended to circulate as coins, and they did so. Other Latin American nations struck proclamation pieces; only in Bolivia were they consistently struck both to commemorate and to circulate.

The roots of this phenomenon lay in Spain. The reign of Philip II (1556–98) saw the introduction of silver medals to commemorate various events. Initially, these bore no relationship to coinage, but a cast piece from Sevilla (Plate 21, 1), proclaiming Philip IV king there in 1621, is well within the weight range common to the Spanish four-real coin of the period (the proclamation piece weighs 13.419 g, while a coin from the Sevilla mint dated 1631 weighs 13.435 g). The issuance of proclamation pieces spread across Spain in succeeding years, and it was introduced in Spanish America in the eighteenth century. It reached its apogee in the Americas with the accession of Ferdinand VII (1808–33). The piece illustrated (Plate 21, 2) is fairly typical. It commemorates the proclamation of Ferdinand VII at Lima in 1808, and its weight (26.996 g) is that of a typical eight-real coin of the period. Similar pieces were produced at other Spanish-American mints, including that of Potosí in the future Bolivia. The pieces tended to be of the eight-real size or larger.

Their production continued in the first year of independence, a logical development considering the importance of the event. The achievement of freedom from Spain was celebrated, insurgent leaders received their due, cities paid homage to the independent regimes. Production of proclamation pieces then fell off in most places. Mexico, Guatemala, Perú, and other countries produced medals to celebrate outstanding persons or events, but production was small, sporadic and in most cases, bore no relationship to coinage. In brief, the medal in Latin America became what it was in the rest of the world, something special, not regularly struck.

The sole exception was Bolivia. There, medals were produced regularly from around 1825 to 1880, side by side with ordinary coinage. No production figures are available, but judging from the number of surviving specimens, they must have been struck by the thousands. Hundreds of types are known, paying homage to the nation, the president or, most commonly, the one in juxtaposition with the other. *Caudillismo*, the nineteenth-century Latin American equivalent of the Cult of Personality, found its fullest expression in Bolivia via a medallic medium.

The reasons for this phenomenon are speculative at best, but some obvious possibilities present themselves. First, Bolivia was one of the major silver-producing nations of the nineteenth century. Thus, if a president wished to commemorate himself on a silver medal, he had

adequate materials for doing so. And he would have his reasons for self-advertising. Bolivia had been freed from Spanish rule by the forces of the great Libertador himself, Simón Bolívar, who served as the new nation's first chief executive, who presented it with its first constitution. Indeed, the country itself is named after him.

Bolívar's intervention in the country which bore his name was a brief one, but it posed major problems for his successors, who were responsible for making a nation out of a vast area of land which fundamentally lacked communications, was largely composed of an inert Indian mass, and which had rich mineral deposits that were coveted by most of its neighbors. Bolívar had acquired a near-mythical status among Bolivia's people, a status which none of his successors could possibly hope to achieve. Yet they *had* to achieve it, or something like it, were they to galvanize the population into a sense of nationality, defend and modernize the republic—and maintain their control. In the absence of any other unifying factor, the chief executive would have to supply one, in the nature of his own person.

To create this unity, it would first be necessary to inform the populace that he was president, that he was making heroic efforts on the nation's behalf and that he would continue to do so providing popular support were forthcoming. The informational tools at his disposal were limited: Bolivia lacked roads, had few books or newspapers, and more modern means of communication lay in the distant future. One possibility remained: the monetary medal. A medal was durable, small enough for easy transport, and, being intrinsically valuable, could readily pass from hand to hand. Its obverse and reverse could be used to present slogans and allegories to the literate, and its value would appeal to literate and illiterate alike, ensuring a wide circulation. And if it were made of a size and weight interchangeable with ordinary coinage, people would accept it all the more readily.

The monetary medal had a natural appeal to both people and government. For the people, it represented money, a desirable commodity on general principle. For the government, it represented a cheap way of influencing public opinion. Actually, there was no cost at all to the government, which had to provide some sort of coinage in any case. Nor was there additional labor involved, since dies would have to be prepared, whatever their choice of inscription and design. In brief, the Bolivian

monetary medal satisfied government and governed, and this curious item, neither a coin nor a medal but something of both, was a prominent feature of the Bolivian numismatic landscape for half a century.

What evidence do we have that the Bolivian monetary medal was in fact intended to circulate as a coin? Our evidence comes from several directions. First, there is abundant indication that many of the pieces *did* circulate, for they are well worn. The ANS collection includes specimens in conditions ranging from poor to mint (Fonrobert 9592; Plate 21, 3).<sup>1</sup> Further, as Guerrero Luque has observed, many surviving specimens have been pierced, which was the common fate of many small and middle-sized Bolivian coins of these years.<sup>2</sup> Presumably, pierced coins and medals alike were used for adornment. Secondly, monetary medals very occasionally bore marks of value, just as did coins. The piece illustrated (Fonrobert 9782; Plate 21, 4) bears a small **1S** to the left of the date, indicating that it was to be valued at a sol, the Bolivian real. One should note here that researchers from Fonrobert to the present have tended to assume that the Bolivian coinage unit was called a sueldo. It was not: the country's first coinage law, enacted on 17 August 1825, envisioned a peso or piece of eight, comprised of eight soles.<sup>3</sup> Confusion probably arose due to the fact that, in common with most other Latin American coinages of the period, Bolivian issues did not spell out the denomination in full. In the case of Bolivia, the letter S (plus 1, 2, 4, or 8) was the only mark of value to appear on early issues. Whether sol or sueldo, Bolivians tended to talk in terms of reales anyway.

<sup>1</sup> [J. Fonrobert], *Die Jules Fonrobertische Sammlung überseeischer Münzen und Medaillen*, ed. Adolph Weyl, rep. (Sepulveda, Calif. 1970), p. 1102, hereafter Fonrobert.

No definitive catalog of Bolivian medals has ever been assembled. Fonrobert is incomplete, being more a catalog of types than of die varieties. I am interested in writing a complete catalog of Bolivian medals by die variety and, to that end, I am taking this opportunity to ask readers for whatever information they might have on these pieces. Photographs and weights would be most helpful.

<sup>2</sup> L. Guerrero Luque, *Las Medallas Monetarias de Bolivia: Aporte para su Catalogación*, Serie Numismática Universal No. 006 (San Nicolás de los Arroyos, Argentina, 1974), p. iii, hereafter Guerrero Luque.

<sup>3</sup> Bolivia, *Collección Oficial de Leyes, Decretos, Órdenes y Resoluciones Vigenes de la República Boliviana*, 3 (Sucre, 1816), p. 389.

It is apparent that Bolivian monetary medals were products of official Bolivian mints. A gold piece from 1854 (Fonrobert 9591; Plate 21, 5) bears the Potosí mint-mark next to the date, while a larger silver piece of 1850 (Fonrobert 9552; Plate 21, 6) employs an edge device identical to that used on the four-sol coin: a reeded edge with the inscription **AYACUCHO SUCRE 1824** interspersed. This inscription makes sense on a coin of the 1820s, for Ayacucho was the battle which freed Bolivia from Spanish rule in 1824, and Antonio José de Sucre was the insurgent leader responsible for the victory. It becomes somewhat harder to explain on a medal issued a quarter-century after the event—unless the medal in question were intended to circulate as a coin. One can also observe the use of identical numeral and letter punches for coins and medals, but the two coincidences already mentioned are more readily apparent.

The medals, then, seem to have been products of official mints. Were they intended to circulate as were other mint products? Beyond the arguments advanced earlier, one might observe that Bolivian medals are found in a variety of sizes, each with a distinct relationship to the others. Thus, in silver, there is a medal weighing roughly 26 g. There are others weighing around 13, still others weighing 6.5, and so on. In at least one case, the medals of differing module bear not only a fixed relationship to each other, but identical designs. This offers a striking parallel to regular Bolivian coinage, and it will be discussed later.

It is in the weights of Bolivian medals that we find our most convincing evidence that they were monetary in nature, intended for circulation, for they weigh the same as coins. This fact has been known for a century: Fonrobert obliquely alluded to it when he came to compile the Bolivian section of his book. Number 9552, the coin just mentioned, is distinctly referred to as a half-peso, number 9555 as a "sueldo," etc.<sup>4</sup>

But neither Fonrobert nor anyone else has fully documented a most interesting fact concerning Bolivian medals: every time there was a change in the prescribed weights of Bolivian coinage, there was a corresponding change in the weights of Bolivian medals. And here, it seems to me, is the most conclusive proof available that, at least in the minds of Bolivian officials, coins and medals were meant to circulate side by side.

<sup>4</sup> Fonrobert, p. 1072.

As mentioned at the beginning, Bolivian monetary medals are fundamentally a feature of the first 50 years or so of the nation's independence. Production over this half century can be conveniently broken down into four periods, which will be seen to correspond very closely (although not exactly) with distinct phases of the ordinary coinage. The first period occupies the years 1827–59 for coins, 1825–59 for medals. The second period takes up the years 1859–63 for both coins and medals. The third period occupies the years 1865–66 for coins, 1865–69 for medals, while the fourth stretches from 1863–80 and beyond for coins, but seems to be confined to the year 1879 for medals.

Period One was essentially a continuation of coinage on the Spanish standard—in fact, the first clause of the coinage law of 17 August 1825 stated that gold and silver coinage were to be the same size, diameter, weight, and fineness as colonial issues.<sup>5</sup> This would make silver coins 90.27% fine and gold ones 87.5% fine, which were the theoretical standards being adopted all over independent Spanish America at that time. The first national Bolivian coins emerged two years later, in 1827. Gold coinage did not appear until the early 1830s, and its production was always minuscule compared with the silver. By 1830, a curious thing was happening. A law of that year apparently lowered silver content to eight dineros fineness—.666—at least for minor silver coinage. I have been unable to locate the law in question, but I have seen references to it in later statutes.<sup>6</sup> The reasons for such a law are unclear and, if we are to believe Martini, the reduction in fineness did not apply to pesos, only to their subdivisions.<sup>7</sup> In any case, the change in fineness hurt business, promoted smuggling and led to friction with adjacent countries. An attempt was made to reform the coinage by a decree of 6 October 1849.<sup>8</sup> This decree came to nothing, but it formed the basis of a new law enacted exactly ten years later, which did take effect, and which did change the fineness of Bolivian coins and proclamation pieces.

<sup>5</sup> Bolivia, *Colección Oficial de Leyes* (above, n. 3), p. 389.

<sup>6</sup> Bolivia, *Anuario de Supremas Disposiciones de 1859* (Sucre, 1860?), p. 56, hereafter, *Anuario . . . de 1859*.

<sup>7</sup> A. Martini, *Manuale di Metrologia* (Turin, 1883), pp. 265–66.

<sup>8</sup> Bolivia, *Colección Oficial de Leyes, Decretos, Órdenes, y Resoluciones Supremas de la República Boliviana*, 1849 (Sucre, 1864?), pp. 151–54.

It is important to note that, while silver fineness may have gone down after 1830, the size and weight of Bolivian coinage remained constant throughout Period One. Weights of monetary medals dating from this period closely match those of contemporary coins, as can be seen in Table 1.

TABLE 1  
Average Weights of Coins and Monetary Medals (1825-59),  
ANS Specimens.

C o i n s			M o n e t a r y M e d a l s		
Denom.	No.	Weight <sup>a</sup>	Denom.	No.	Weight
Gold					
Scudo	5	3.372 (3.356-3.394)	(Scudo)	3	3.384 (3.379-3.387)
1/2 Scudo	11	1.684 (1.659-1.722)	(1/2 Scudo)	1	1.680
Silver					
8 Soles	37	26.927 (26.140-27.455)	(8 Soles)	1	26.631
4 Soles	36	13.396 (12.166-14.014)	(4 Soles)	3	13.552 (13.518-13.616)
2 Soles	10	6.647 (6.247-6.780)	(2 Soles)	34	6.729 (5.869-6.972)
Sol	18	3.370 (3.095-3.673)	(Sol)	75	3.373 (2.714-3.969)
1/2 Sol	19	1.696 (1.554-1.904)	(1/2 Sol)	2	1.663 (1.636-1.689)

<sup>a</sup> Weights are in grams. The first number is the average weight, the second and third are lowest and highest weights.

From the above table, it will be noted that the vast majority of Period One monetary medals fall into the medium-size range, one or two sol. I doubt that this is an anomaly unique to the ANS collection; the pieces offered for sale tend to be in that same range. As we shall see, pieces of medium size and weight predominate in Periods Two through Four as

well. This tends to bear out the theory that successive Bolivian governments intended the pieces to circulate widely. They would make them large enough to be worth using in trade (and, presumably, large enough to claim the attention of their users as to the messages they carried), but they would be small enough, of limited enough value, so that most people would have an opportunity to see and use them.

The great majority of Bolivian monetary medals come from Period One, and they faithfully reflect the hopes and aspirations, the political turns of fortune, of the nation and those who ruled it during the first three decades of its independence. Monetary medals actually preceded the introduction of a national Bolivian coinage. A piece of two-sol weight (Fonrobert 9467) expresses the gratitude of Potosí to the outsiders who liberated the country from Spanish control, while a medal of the one-sol weight celebrates the new constitution which Bolívar gave his namesake in 1826. These pieces express the hopes of a new nation as it viewed an uncharted, but doubtless beneficent, future.

That future was about to turn sour. With Bolívar's departure, rival military chieftains vied for control of Bolivia. By 1829, the strongest of them, Andrés Santa Cruz, had assumed command, beginning a dictatorship which lasted for ten years. Santa Cruz had large ambitions, dreams which were somewhat more grandiose than his country could support. In 1836, his armies marched into Lima, and, for the next three years, Perú and Bolivia were united under the rule of the dictator. A two-sol monetary medal struck in 1838 (Fonrobert 9517; Plate 21, 7) celebrates Santa Cruz, the Perú-Bolivian Confederation, and Bolivian military prowess. Santa Cruz's creation, which marked one of the few occasions when Bolivia influenced outside events rather than the other way round, was short-lived. A Chilean army defeated him at the battle of Yungay early in 1839, and the Confederation collapsed. Santa Cruz fled a Bolivia now reduced to its former size, and a new president, José Miguel de Velasco, took his place. An 1840 sol-weight medal proclaims Velasco responsible for the country's regeneration (Fonrobert 9526; Plate 21, 8). Be that as it may, he disappeared from the scene the following year.

By now, Bolivia's political fortunes were beginning to approach the anarchic. A Peruvian army, led by Agustín Gamarra, invaded the country in 1841, presumably in retaliation for recent events. It was defeated at Ingavi that November, and Gamarra was killed. The leader

of the triumphant Bolivian forces was José Ballivián, who became Bolivia's new strong man, ruling until 1847.<sup>9</sup>

Ballivián's victory was celebrated on several monetary medals. The piece illustrated is typical (Fonrobert 9800; Plate 22, 9). For reasons not known, Ballivián chose to commemorate the *fourth* anniversary of the battle, rather than the first or fifth, which would have been more logical choices. The column seen on this piece was erected on the spot "en que cayó sin vida el general Gamarra."<sup>10</sup>

While saving national honor at Ingavi, Ballivián was not too busy to give the country a new constitution, in 1843. This fact was duly recorded on a monetary medal of the one-sol weight struck that year Bolivia's several nineteenth-century constitutions were all fairly similar. Reflecting political realities, they vested the preponderance of power in the chief executive. Those of 1826, 1831, 1843, 1851, and 1868 all received commemoration on pieces of the one-sol size, the constitution in question being symbolized by an open book inscribed LEY FUNDAMENTAL.

Ballivián was overthrown in 1847. Before leaving office, however, he commemorated his wife, Doña Mercedes, on a one-sol piece, perhaps the most charming of all Bolivian monetary medals (Fonrobert 9462a; Plate 22, 10). Fonrobert notes that the identical dies were employed to strike a gold scudo,<sup>11</sup> but this piece is absent from the ANS collection.

Ballivián's successor was the man responsible for his overthrow, Manuel Isidoro Belzú, who ruled from 1847 to 1855. Belzú figures more frequently than any other ruler on Period One monetary medals. The vicissitudes of his public career are faithfully chronicled. Unlike most dictators of the period, who were content merely to allude to themselves on their medals, Belzú took pleasure in directly appearing on his, usually in full or seven-eights profile. His rule was not a particularly peaceful one. He was gravely wounded on 6 September 1850 as a direct result of a revolt against him, led by an aspiring general, Morales.<sup>12</sup> Belzú's recovery led to several interesting results. A law of 7 September 1851 proclaimed 6

<sup>9</sup> Guerrero Luque, p. 7.

<sup>10</sup> Guerrero Luque, p. 10.

<sup>11</sup> Fonrobert, p. 1061.

<sup>12</sup> Guerrero Luque, p. 13.

September (the day Belzú had been wounded the previous year) as a national holiday.<sup>13</sup> Belzú ordered a round chapel, La Rotonda, constructed in honor of Our Lady of Carmel, the chapel occupying the very spot where the dictator had been attacked. Invitations went out to all the bishops in the republic on 20 July 1852; they were asked to participate in a gala dedication ceremony, held on the following 6 September.<sup>14</sup>

All of this found its way onto the Bolivian monetary medal. Medals of the eight-, two-, and one-sol weights were struck, the twos at least in fair number. Fonrobert 9564 (Plate 22, 11) shows the peso-weight medal. Its obverse features an angel carrying a trumpet and a wreath. Note that the trumpet has a banner with the inscription VIVA BOLIVIA while the wreath contains an inscription reading VIVA (abbreviated) EL JRAL (general) BELZU. The ruler and the country he ruled are inextricably linked in this design. Neither exists without the other. No closer connection between ruler and nation, an idea which is at the heart of the nineteenth century Latin American concept of dictatorship, has ever been assumed, much less illustrated on a medal.

The dedication of his chapel marked a high point in Belzú's career. As the 1850s wore on, opposition to him increased. In 1855, he took the unprecedented step of resigning when his four-year term had come to an end. The event was commemorated on a two-sol medal (Fonrobert 9604; Plate 22, 12). There is something a trifle depressing about an event which in theory was ordinary, legally predictable, but in practice so extraordinary that it received immortality on a medal. Belzú was succeeded by his son-in-law, Jorge Córdova, who was replaced in 1857 by José María Linares. Linares appears in a wretchedly executed full-face pose on a sol-weight medal struck by the new La Paz mint (Fonrobert 9776; Plate 22, 13). He is important to us here because it was during his reign that Bolivian coinage underwent a basic reform, as did the Bolivian monetary medal.

By the late 1850s, Bolivia's coinage was becoming an area of increasing concern. Grave abuses at the Potosí mint were becoming public know-

<sup>13</sup> Bolivia, *Colección de Leyes, Decretos, Órdenes y Resoluciones Supremas*, 1850–51 (Sucre, 1864), p. 238.

<sup>14</sup> Bolivia, *Colección de Leyes, Decretos, Órdenes y Resoluciones Supremas de la República Boliviana*, 1851–53 (Sucre, 1864), pp. 123–24.

ledge and a special commission was set up to inspect and reform mint practices there.<sup>15</sup> The La Paz mint was proving a failure: a decree of 24 October 1859 would close it.<sup>16</sup> But the heart of the problem was the *moneda sencilla*—that is, the money struck to eight dineros fineness. It will be recalled that this low-purity silver coinage had been introduced in 1830—at least for subdivisions of the peso. From the government's viewpoint, great social unrest within Bolivia had been avoided solely by the secrecy with which the reduced standard had been introduced. Outside the country, however, the downward reform of 1830 had led to friction with neighboring Perú. A treaty of amity and commerce signed with that country on 3 November 1847 explicitly pledged Bolivia to go back to the old, pre-1830 standard for all silver coinage. In line with this agreement, a decree of 6 October 1849 resurrected the 90.27% fineness standard, but, as we have seen, it was never implemented. The problem remained throughout most of the 1850s, exacerbating relations with Perú.

The first steps toward the necessary monetary reform took place in the autumn of 1858, and they finally came to fruition by a decree of President Linares dated 17 August 1859. It declared that Bolivia's silver coinage would henceforth all be struck at 90.27% fine. Then, in order to maintain and retain the current value of the *moneda feble de ocho dineros*, that is, the old *moneda sencilla* of two-thirds silver, the decree stated that the weight of the new money would be reduced, so that it and the old would contain the same amount of silver. As a result, the new peso would weigh 400 gr (20 g by Spanish reckoning), the half peso or four sol 200 gr or 10 g, and so on. Weight in grams and legal fineness were to be included in the inscriptions on each coin. Denominations and types were to remain unchanged.<sup>17</sup>

In short, coins were to be smaller, but they were to contain the same amount of silver as before. The exception was the peso, which had been struck on the old, pre-1830 standard since its introduction. No matter: it, too, must be reduced in weight in order to make the rest of the system

<sup>15</sup> *Anuario . . . de 1859*, pp. 44–45.

<sup>16</sup> *Anuario . . . de 1859*, p. 55.

<sup>17</sup> *Anuario . . . de 1859*, pp. 56–57.

work. Period Two in Bolivian coin and medal production was launched. In both areas, it lasted until 1863.

As one might assume, since Period Two comprised only a few years, relatively few coins and monetary medals were issued. The ANS cabinets do contain enough specimens of each category to make a comparative study possible, however. The results are seen in Table 2.

TABLE 2  
Average Weights of Coins and Monetary Medals (1859–63),  
ANS Specimens.

C o i n s			M o n e t a r y M e d a l s		
<i>Denom.</i>	No.	Weight <sup>a</sup>	<i>Denom.</i>	No.	Weight
4 Soles	2	9.973 (9.762–10.184)	(4 Soles)	3	10.005 (9.931–10.068)
2 Soles	11	5.013 (4.895–5.134)	(2 Soles)	5	5.011 (4.961–5.053)
Sol	7	2.523 (2.441–2.577)	(Sol)	1	2.489

\* Weights are in grams. The first number is the average weight, the second and third are lowest and highest weights.

Representatives of other denominations of monetary medals are not present in ANS holdings. Indeed, the entire production of this form of money seems to have declined during these years. The figures expressed in the table cannot be conclusive due to the small number of samples. But they do suggest that what had happened during Period One was also taking place during Period Two, that the new medals were indeed circulating as coins, and that this reflected the government's desire.

I have been unable to locate any reduced-weight monetary medals produced by the Linares regime. None are listed in Fonrobert, and we must pass to the reign of Linares's eventual successor, José María de Achá, to find what few monetary medals were produced during Period Two. One of the more common pieces (Fonrobert 9783; Plate 22, 14) renders the homage of the city of Cochabamba to General Achá, victor at the

battle of San Juan. The battle took place in 1862, the result of an uprising by General Pérez.<sup>18</sup> The reverse of this four-sol medal informs us that Achá was the savior of the constitution of 1861—which is only fair, considering that he had a hand in its creation. It is doubtful whether this piece actually was struck in Cochabamba regardless of its inscription. The edge bears the old lettering AYACUCHO SUCRE 1824 interspersed with vertical reeding, which had been adopted for the new, smaller module, four-sol coin being struck by the Potosí mint. This leads me to conclude that Fonrobert 9783 came from the same source.

Achá's reign also saw two closely related two-sol medals, one purporting to be from Cochabamba, the other from Potosí. Both are dated 1863, both bear almost identical designs, and both were almost certainly products of the Potosí mint. The Cochabamba piece is Fonrobert 9750; that of Potosí is Fonrobert 9652.

President Achá's administration, the beginning of Period Three, is numismatically significant because it saw the abandonment of the centuries-old Spanish monetary system based on the piece of eight in favor of a decimal system, based on a boliviano and its subdivisions. Other countries were decimalizing their coinages at this time, and Bolivia followed suit in 1863. The National Assembly passed a law setting up the new system on 29 June of that year, largely on behalf of commercial and mining interests, as Achá observed when he published the new law on 1 July.<sup>19</sup> The coinage was simplified. The clumsy 90.27% silver fineness stipulation, an inheritance from colonial Spain, was abandoned in favor of a simple purity standard of 90%. The new peso, or boliviano, was to weigh 500 gr (25 g), the half boliviano 250, and so on. The old two-sol coin was replaced by a fifth boliviano or tomin, of five g, and ten décimos or Bolivian reales would now go to make up the peso, rather than eight soles as before. Copper coinage figured prominently in the new system, marking the first time in Bolivian history that that metal played a coinage role of its own. One- and two-céntimo or centavo pieces were called for, and both were struck haltingly over the next two decades.

<sup>18</sup> Guerrero Luque, p. 23.

<sup>19</sup> Bolivia, *Annuario de Leyes y Supremas Disposiciones de 1863* (Sucre ? 1864 ?), p. 170.

The new law also set up an exchange ratio of five to four between the old money still in circulation and the new.<sup>20</sup>

The new decimal system was to carry Bolivia through most of the remainder of the nineteenth century and on into the twentieth. Vestiges of it remain today. Bolivian pesos are no longer made of silver, but they are still called bolivianos, and they are still divided into 100 centavos.

Considering the longevity of the new system and the large number of monetary medals produced under previous ones, it would be logical to assume that great numbers of monetary medals would be struck in accordance with the decimal system. In fact there was only one issue which clearly tied in with the decimal system, a fifth boliviano of 1879. This will be discussed later.

Any explanation of the paucity of decimal monetary medals must remain speculative at best, but one point seems fairly reasonable: had the ordinary political state of affairs gone on uninterrupted, with strong men replacing each other at fairly regular intervals, decimal monetary medals would have probably been struck on their behalf. But the political climate changed for the worse late in 1864. Achá was overthrown and Mariano Melgarejo took his place. Melgarejo holds the dubious distinction of being the worst ruler in Bolivia's history. His six years of misgovernment were punctuated by civil wars, unheard of brutality and repression, and a general downward slide in the country's political and economic fortunes.

Such a tyrant would doubtless appreciate the immortality afforded by a monetary medal—and Melgarejo did. The medals were produced, but they did not adhere to a decimal standard. They were based instead on a new, low-weight, low-silver coinage which Melgarejo introduced and which bore his name—the *peso melgarejo* and its subdivisions of Period Four.

The antecedents of the new coinage are to be found in the nature of the Melgarejo dictatorship. Its brutality and capriciousness led to a series of uprisings against him which commenced almost as soon as he took power and ended only with his overthrow and death late in 1871. A particularly serious revolt broke out in May 1865, centering in the southern part of the country. Melgarejo left La Paz at the head of

<sup>20</sup> *Anuario . . . de 1863*, pp. 125–26.

several thousand troops and spent the rest of that year marching and countermarching across the country in a desperate attempt to regain control.

The revolt centered on two areas. In the north, Castro Arguedas was proclaimed *Jefe Superior* (that is, provisional head) of the republic on 9 July. When Arguedas decreed the holding of free elections on the following day, his position became even stronger. Meanwhile, a number of petty chieftains had revolted in Potosí and elsewhere in the south. All of them wished to be sole leader of the region, just as Arguedas was in the north, and this rivalry was to prove their undoing. Unable to unite against Melgarejo, they were soundly defeated by him at Cantería, a spur of the Cerro de Potosí, on 5 September 1865.

Melgarejo took Potosí and remained there for three months, resting and refitting his troops for the coming struggle with Arguedas. Arguedas himself initiated the last act of the drama. He marched to Oruro with about two thousand men, entering that city on 17 December. Hearing that Melgarejo was on his way, Arguedas retreated to La Paz. A climactic battle took place outside La Paz at Letanias on 24 December. Arguedas and his forces were soundly defeated. He seems to have fled to Perú, although a goodly number of his supporters were captured and executed on Melgarejo's orders.<sup>21</sup>

All of this formed the background to the introduction of Melgarejo's coinage. In order to pay the troops necessary to crush Arguedas, the tyrant needed a good deal of money. He obtained 54,000 pesos via forced loans, but this was not nearly enough to satisfy his needs. He therefore instructed one of his cabinet ministers, Jorge Oblitas, to come up with additional ways of obtaining funds. Oblitas's answer was to debase the currency. Its fineness was reduced from 90 to 66 2/3%, and huge amounts of it were coined—Arguedas puts the figure at 603,067 melgarejos.<sup>22</sup> An ambitious man, who had plans of his own for the presidency, Oblitas ordered that the new coinage bear the portrait of Melgarejo on the obverse, laudatory inscriptions on the reverse (Fonrobert 9676; Plate 22, 15). Melgarejo's second-in-command,

<sup>21</sup> A. Arguedas, *Obras Completas. Tomo 2: Historia* (Mexico, 1959), pp. 1253-55, hereafter Arguedas.

<sup>22</sup> Arguedas, p. 911.

Mariano Muñoz, appears with the dictator on the subdivisions of the melgarejo, while Melgarejo appears alone on the melgarejo.<sup>23</sup> The half and quarter melgarejos bear a reverse inscription which has caused confusion among numismatists for a century: **CANTERIA DE POTOSI SETIEMBRE 5 DE 1865.** (Fonrobert 9687; Plate 23, 16). It has been widely assumed that the legend referred to homage paid to Melgarejo by the stonecutters of Potosí on 5 September 1865, for the Spanish word for stonecutting is *cantaría*. Since many of the early monetary medals bore inscriptions indicating that they paid homage to a president on behalf of one group of functionaries or another, the idea of stonecutters doing the same thing is not as outlandish as it might initially appear. As a result, most of the half and quarter melgarejos of this series in the ANS collection bear labels indicating that they were produced on behalf of Bolivian stonecutters. As we have seen, however, *Canteria* is a place name, and the date (5 September 1865) of course refers to Melgarejo's victory over his opponents at Potosí.

The melgarejo weighed in the neighborhood of 20 g, and its fineness was actually stated on the reverse. The half and quarter melgarejos weighed proportionate amounts, but they bore no indication as to fineness. None of the coins included an actual mark of value, but one thing is certain: they represented a return to the old, pre-decimal system. The melgarejo was composed of eight reales or soles, not ten, as was the case with the boliviano. A circular sent out by Mariano Muñoz on 24 December 1866 said so. It also stated that this was the melgarejo's nominal value, while its intrinsic one was only six reales. Muñoz added that the underweight coins were causing disruptions in foreign and domestic trade.<sup>24</sup>

By late 1866, the melgarejo was, in a sense, no longer needed. If it was an emergency war measure, it had served its purpose. Melgarejo's army had been paid, had beaten the opposition, and the dictator was firmly in power, at least for the time being. Considering this, considering also that the lightweight coinage was becoming something of a nuisance, Melgarejo launched a decree on 12 November which forbade any further issuance of melgarejos. The Potosí mint was to return to striking coins

<sup>23</sup> Arguedas, p. 1258.

<sup>24</sup> Bolivia, *Anuario Administrativo, 1866* (Sucre? 1867?), pp. 77-78.

on the decimal standard adopted in 1863. Further, from 1 January 1867, the shortweight coinage was to circulate at a value of only six reales.<sup>25</sup> A circular from Cochabamba, also dated 12 November 1866, set up an elaborate plan for exchanging old coinage for new, which was to take place on the last day of that year.<sup>26</sup> It should be noted that this circular only applied to pesos; smaller coins were not covered by it.<sup>27</sup>

All of this leads to several interesting questions. Why should Melgarejo's government have gone back to pre-decimal coinage traditions for its emergency monetary system? After all, it would have been easy enough to have coined a *decimal* melgarejo, thereby paying lip service to the 1863 reform. Perhaps the government concluded that Bolivians were more accustomed to the old, eightfold relationship than they were to the new, decimal one, and that they would therefore be more likely to accept the Melgarejo issues. On the other hand, the Potosí mint was still producing ordinary, full-weight bolivianos and their decimal subdivisions. Why were *these* coins being struck? Were they intended for foreign trade, to maintain Bolivia's credit image in the outside world? Did they circulate in Bolivia itself, and if they did, what was their ratio to the melgarejo prior to the five to three relationship fixed by statute at the end of 1866? Further research may bring answers to some of these questions.

The fact that subdivisions of the melgarejo were not subject to recall may help to explain an interesting fact: while no monetary medals of the melgarejo size seem to have been struck, there are numerous medals which correspond to its subdivisions, some of which bear dates several years subsequent to the recall scheduled for the end of 1866. This would be difficult to explain if *all* of Melgarejo's coinage had been recalled. It makes more sense if only *some* of it had been recalled. There is another point to consider. While production of full-weight bolivianos went on year by year through the remainder of the Melgarejo dictatorship, production of subsidiary coinage was sporadic at best. No half bolivianos were coined until 1873, the fifth boliviano was struck in 1866 and not again until 1870, while the tenth was not coined between 1867

<sup>25</sup> *Anuario . . . 1866*, pp. 64–65.

<sup>26</sup> *Anuario . . . 1866*, p. 65.

<sup>27</sup> *Anuario . . . 1866*, pp. 77–78.

and 1870, and the twentieth only in 1865 and not again until 1871. Presumably, minor coinage would have been necessary, and it appears that the monetary medal was pressed into service to provide it. Thus, while no "official" eight or sixteenth melgarejos were produced, we do have monetary medals whose weights would correspond to those coins had they been struck (see Table 3).

TABLE 3  
Melgarejo Issues and Contemporary Monetary Medals,  
ANS Specimens.

M e l g a r e j o s			M o n e t a r y M e d a l s		
Denom.	No.	Weight <sup>a</sup>	Denom.	No.	Weight
Melgarejo	6	19.681 (19.306–20.053)	None known		
1/2 Melgarejo	6	9.950 (9.724–10.121)	(1/2 Melgarejo)	1	9.887
1/4 Melgarejo	6	4.875 (4.717–5.086)	(1/4 Melgarejo)	12	4.950 (4.735–5.194)
1/8 Melgarejo	None coined	(ca. 2.438 if it existed)	("1/8 Melgarejo")	18	2.418 (2.206–2.601)
1/16 Melgarejo	None coined	(ca. 1.219 if it existed)	("1/16 Melgarejo")	14	1.207 (1.094–1.324)

\* Weights are in grams. The first number is the average weight, the second and third are the lowest and highest.

The possibility must be admitted that what are postulated here as quarter-, eighth-, and sixteenth-melgarejo monetary medals were not based on the melgarejo at all, but on the boliviano. After all, a hypothetical sixteenth melgarejo and a real twentieth boliviano should weigh about the same (1.219 vs. 1.250 g). Here, however, we run into the fact that a monetary medal based on a subdivision of a 90% silver boliviano should logically be 90% silver. By visual appearance at least, none of the monetary medals issued under Melgarejo comes anywhere close to being that pure. They appear to be struck in something approaching billon, as do the actual melgarejo coins. Pending sophisticated analytic

techniques, I am convinced that the monetary medals known from these years were based on the melgarejo and not the boliviano.

Melgarejo's monetary medals have a somewhat lesser intrinsic interest than do earlier issues, in part due to the repetitious nature of their descriptions and devices. Medal after medal proclaims Melgarejo and his army as the saviors of Bolivia. A tiny medal of the sixteenth-melgarejo weight reminds us that the dictator saved the country from anarchy (Fonrobert 9682; Plate 23, 17). What it does *not* mention, of course, is that Melgarejo was responsible for creating a good deal of that anarchy himself. A later piece, an eighth melgarejo, celebrates the constitution of 1868, which Melgarejo gave the country by executive fiat (Fonrobert not; Plate 23, 18). A quarter-melgarejo medal of the same year (Fonrobert not; Plate 23, 19) hails him as the defender of the new constitution, which he suppressed the following year.<sup>28</sup> An interesting half-melgarejo medal commemorates the dictator's visit to Potosí in late 1867 with a reverse device of astonishing detail (Fonrobert not; Plate 23, 20), while his birthday in 1869 is celebrated on a piece corresponding to an eighth melgarejo (Fonrobert not; Plate 23, 21).

Melgarejo's tenure ended in 1871. A lost battle in the spring of that year obliged him to flee the country, and he was murdered in Perú a few months later. His misrule had somewhat discredited dictatorship in Bolivia, and the next few presidents, none of whom ruled for more than a few months, began leading the country toward rule by institutions rather than by personalities. The fact that Bolivia's presidents in the early 70s tended to be amiable nonentities may help to explain the lack of monetary medals during those years.

The country was to be treated to one last dictator, however. This was Hilarión Daza, who usurped power in 1876. His three-year tenure was more inept than brutal; Daza was no Melgarejo. He did Bolivia greater disservice by his ineptitude than had Melgarejo by his brutality, however, for his fumbling machinations in foreign diplomacy resulted in the disastrous War of the Pacific, in which Bolivia lost much of her wealth and all of her seacoast to Chile.

Daza was also responsible for the last monetary medal struck to pay homage to a Bolivian dictator, a twenty centavo or fifth boliviano of

<sup>28</sup> Guerrero Luque, p. 29.

1879. The piece is far more coin than medal. Its weight (ca. 4.5 g) is that of an ordinary twenty-centavo piece. Its obverse is nearly identical to the ordinary circulating coin of that year (Plate 23, 22) but the reverse is another matter. Bolivian silver coins of the period bear the national motto and the denomination within a wreath. Daza's medal bore his portrait, along with an inscription underscoring the relationship between the president and the national army, a logical choice of inscription if we consider that the country was about to go to war (Plate 23, 23). This side of the medal also bears the denomination, abbreviated **20 CET.**, below Daza's portrait.

The lower inscription on the obverse (**ENERO 14 DE 1879.**) was troublesome. Judging from the allusion to the president and the army found on the reverse, I initially assumed that the date 14 January had something to do with the outbreak of the War of the Pacific. A review of official documents, however, turned up no event of importance which occurred on that day. Arguedas provided the answer: 14 January happened to be Daza's birthday. By a decree of 13 January 1879, the following day was proclaimed a national holiday, forever. Large celebrations were held from the 14th to the 25th, in commemoration of the epochal event.<sup>29</sup>

Daza's birthday was not celebrated by anyone, save members of the immediate family, in 1880. Chile invaded the country in the Spring of 1879, the Bolivian army suffered a series of disastrous defeats, and Daza was forced to flee at the end of the year. His successor as president, General Narciso Campero, got the country out of the hostilities as best he could, but the price was high. As noted above, Bolivia lost her mineral-rich coastland and with it much of her national pride.

She also lost much of her taste for capricious, one-man dictatorships of the Daza variety. It was this type of rule which had kept her poor, maimed her people, and now had robbed her of much of her land. Dictatorship was at least partially discredited, and the next few presidents would at least try to rule within the limits imposed by the constitution. This turning away from one-man rule may go far toward explaining the demise of the monetary medal in Bolivia. It had always been closely linked with dictatorship before; now, with the passing of the *caudillos*, it no longer had any relevance to the political realities of the day.

<sup>29</sup> Arguedas, p. 1320.

## MISSING DIE PROBABILITIES, EXPECTED DIE PRODUCTION AND THE INDEX FIGURE

WAYNE E. McGOVERN

In his 1968 article, E. J. P. Raven<sup>1</sup> discussed the concept of the index figure and noted the importance of a high index figure in establishing linking dies and as a rough estimate of the survival rate for a coin series. The index figure was defined as the average number of surviving coins from each obverse die within a given series of coins. In addition, Raven, through the efforts of a statistician colleague, Francis Marriott, indicated that on the basis of the index figure one could estimate the probability of finding one or more additional full-life obverse die(s) within the series. Mr. Raven had previously passed these conclusions on to M. Thompson who mentioned them in her 1961 text.<sup>2</sup>

From Marriott's analysis, Raven indicated that if one knows as many as 5–6 specimens per die, the chances of finding one more full-life obverse die in the series are about 1 in 20. An alternate way to state this is that if the average index figure is 5 to 6 then one can be approximataly 95 percent sure that all full-life dies are accounted for in the series. For 7 to 8 specimens per die, one can be approximately 99 percent sure that all full-life dies are known. Conversely an index figure around 2 to 3 suggests approximately a 50–50 chance of one more full-life die subsequently appearing.

Thompson stated that these results generally agreed with her experience but neither Raven nor Thompson gave the mathematical details

<sup>1</sup> E. J. P. Raven, "Problems of the Earliest Owls of Athens," *Essays Robinson*, pp. 40–58.

<sup>2</sup> M. Thompson, *The New Style Coinage of Athens* (New York, 1961), p. 711.

supporting these conclusions. Only the results were presented and as far as the author has been able to determine Mariott's analysis has not been published in the numismatic literature.<sup>3</sup>

It was therefore decided to reexamine this problem, particularly the assumptions underlying the results, and to derive the mathematical details. The results of this expanded analysis are presented in recognition of the importance of the concept of the index figure as indicated by Raven and with the hope that a better and fuller understanding of this concept will lead to its greater use in the future.

### ASSUMPTIONS

The basic problem is to find the probability that in a sample of a given size, taken from a universe of a number of coins produced from a known number of obverse dies, coins representing one or more full-life obverse dies will be missing. For example in a universe of coins consisting of eight obverse dies, what is the probability that a sample of 35 coins will be represented by only 7 of the 8 obverse dies?

To solve such problems we need to assume that the sample is random and that each full-life obverse die is equally represented by the number of coins in the ground. That is, each coin in the sample had an equal chance of being selected. In order for the assumption of a random sample to be valid it is necessary that the coins struck from each full-life die be uniformly distributed in the ground. However, in certain instances we understand that the uniform distribution assumption is only approximated. For example, Raven noted that if a large hoard contained only the earlier issues of the series, then the assumption of a random sample would be called into question. With respect to the assumption of equal obverse die representation, he has argued that each full-life die originally struck roughly the same number of coins.<sup>4</sup> This assumption in itself is not sufficient to guarantee equality; it is necessary to assume further that

<sup>3</sup> Notice has not appeared in *NL*, vols. 74–102 (1966–79).

<sup>4</sup> D. G. Sellwood, "Some Experiments in Greek Minting Technique," NC 1963, p. 229, estimated a minimum of 5,000 and a possible norm of 8,000 coins per obverse die with cold striking, and 10,000 to 16,000 coins with hot striking.

the same proportion of coins find their way into the ground. The number of representatives in the sample space (i.e. the ground) must be roughly the same for each specific die in the series. A coin which at a later date is placed in a "melting pot" cannot represent the former die.

In many, if not in most, instances past excavations have altered the relative distribution of a particular die within a series: therefore both assumptions of (1) randomness and (2) equality of production (and subsequent deposition) are not strictly valid. Yet, as noted previously, in spite of these shortcomings the general results agree fairly well with experience, particularly, as will be seen, with larger sample sizes or higher index figures.

### GENERALIZED PROBABILITY THEOREM

The initial goal of this analysis is to find in a sample of size  $S$  from a universe of  $N$  obverse dies the probability ( $P$ ) that one or more full-life obverse dies will be missing.

To do this we make use of the generalized additive law of probability<sup>5</sup> or

$$(1) \quad P(\bar{D}_1 \text{ or } \bar{D}_2 \text{ or } \dots \text{ or } \bar{D}_n)$$

$$\begin{aligned} &= \sum_{i=1}^N P(\bar{D}_i) - \sum_{i,j} P(\bar{D}_i \text{ and } \bar{D}_j) \\ &\quad + \sum_{i,j,m} P(\bar{D}_i \text{ and } \bar{D}_j \text{ and } \bar{D}_m) \dots \\ &\quad \pm P(\bar{D}_1 \text{ and } \bar{D}_2 \text{ and } \bar{D}_m \dots \text{ and } \bar{D}_n) \end{aligned}$$

where  $P(\bar{D}_1 \text{ or } \bar{D}_2 \dots \text{ or } \bar{D}_n)$  is the probability that at least one die, *maybe more*, will be missing (indicated by the bar over  $D$ ) from the sample.  $P(\bar{D}_i)$  is the probability that the specific obverse die labeled  $i$  (where  $i$  can be any particular die in the universe of  $N$  dies) will *not* be found in the sample.  $P(\bar{D}_i \text{ and } \bar{D}_j)$  is the probability that the specific combination of dies  $i$  and  $j$  will *not* be found in the sample of size  $S$ .

The sigma notation indicates summation over all possible cases or from 1 to  $N$  for the first term. The second sigma is the sum of all combinations of dies numbered 1, 2,  $\dots$  to  $N$  taken two at a time, the third sum is over all combination of dies taken three at a time and so on.

<sup>5</sup> A. M. Mood, *Introduction to the Theory of Statistics* (New York, 1950), p. 29.

The latter terms of alternating sign are necessary to correct redundancies in computing certain probabilities which may not be independent or mutually exclusive.

For a series consisting of just two dies ( $N = 2$  or  $D_1$  and  $D_2$ ), equation (1) reduces to

$$(2) P(\bar{D}_1 \text{ or } \bar{D}_2) = P(\bar{D}_1) + P(\bar{D}_2) - P(\bar{D}_1 \text{ and } \bar{D}_2).$$

For a series of three dies ( $N = 3$ ), equation (1) becomes

$$(3) P(\bar{D}_1 \text{ or } \bar{D}_2 \text{ or } \bar{D}_3) = P(\bar{D}_1) + P(\bar{D}_2) + P(\bar{D}_3) \\ - P(\bar{D}_1 \text{ and } \bar{D}_2) - P(\bar{D}_1 \text{ and } \bar{D}_3) \\ - P(\bar{D}_2 \text{ and } \bar{D}_3) + P(\bar{D}_1 \text{ and } \bar{D}_2 \text{ and } \bar{D}_3).$$

The last term in both equations (2) and (3) is zero since in a series of  $N$  dies all  $N$  dies cannot be missing if the sample size  $S$  is other than zero.

To simplify future notation the probability on the left side of equation (1) will be relabeled as  $P(k \geq 1 | S, N)$  where  $k$  is the number of missing full-life obverse dies,  $S$  the sample size and  $N$  the number of obverse dies in existence. The sign  $\geq$  means equal to or greater than. As noted above and seen in equations (2) and (3), the number of terms used to determine  $P(k \geq 1 | S, N)$  is one less than the number of obverse dies in existence or  $(N - 1)$ .

From the previous assumptions of randomness and equality of distribution the probabilities are  $P(\bar{D}_1) = P(\bar{D}_2) = P(\bar{D}_3)$ , etc. Specifically in a series of  $N$  dies to exclude continually a single die, it is necessary to sample only from the remaining dies. In a single trial the probability is

$\left[ \frac{(N-1)}{N} \right]$  that a specific die will not be selected and in a continuous sampling of size  $S$  the probability is simply

$$(4) P(\bar{D}_1) = \left[ \frac{N-1}{N} \right]^s = P(\bar{D}_2) = P(\bar{D}_3), \text{ etc.,}$$

that die  $D_1$  or any other single die will be continuously excluded.

By induction this result can be expanded to  $k$  missing dies such that

$$(5) P(\bar{D}_1 \text{ and } \bar{D}_2 \text{ and } \dots \text{ and } \bar{D}_k) = \left[ \frac{N-k}{N} \right]^s$$

for a *specific* combination of  $k$  missing dies, in which case equation (1) becomes

$$(6) \quad P(k \geq 1 | S, N) = C_1^N \left[ \frac{(N-1)}{N} \right]^s - C_2^N \left[ \frac{(N-2)}{N} \right]^s \\ + \dots \pm C_{N-1}^N \left[ \frac{1}{N} \right]^s$$

where  $C_i^N$  is the combinatorial formula or the total number of combinations possible when selecting  $i$  objects or dies out of  $N$  objects or dies.

Equation (6), through the use of the combinatorial formula (substituting the values of  $C_1^N, C_2^N, \dots, C_i^N$ ) becomes

$$(7) \quad P(k \geq 1 | S, N) = N \left[ \frac{(N-1)}{N} \right]^s - \frac{N \cdot (N-1)}{2} \left[ \frac{(N-2)}{N} \right]^s \\ + \frac{N \cdot (N-1) \cdot (N-2)}{2 \cdot 3} \left[ \frac{(N-3)}{N} \right]^s \\ - \frac{N \cdot (N-1) \cdot (N-2) \cdot (N-3)}{2 \cdot 3 \cdot 4} \left[ \frac{(N-4)}{N} \right]^s \\ + \dots \pm N \left[ \frac{1}{N} \right]^s$$

where  $P(k \geq 1 | S, N)$  is the probability that in a sample of size  $S$ , *one or more obverse dies* in a universe of  $N$  obverse dies will be unrepresented in the sample of known coins. Recall that in calculating  $P$  only the first  $(N-1)$  terms are used.

Equation (7) is our generalized probability theorem. To solve this equation for probability values one needs to know the sample size ( $S$ ) and the number of dies in existence ( $N$ ). Generally, however, the quantity ( $N$ ) is unknown. Therefore to use effectively equation (7) one needs an additional source of information.

Equation (7) can be solved assuming ( $N$ ) for a given ( $S$ ), and the results are tabulated in Table 1. In Table 1 and succeeding tables, the 5 percent level is taken as the threshold level of significance. At or below this level there is one or less than one chance in 20 of a full-life obverse die subsequently appearing. Conversely if the probability is 95 percent, there is a 95 percent chance that one die will yet appear.

TABLE 1

$P(k \geq 1)$  = Probability of One or More Dies Unrepresented in Sample  
(in Percent)

<i>Sample Size (S)</i>	<i>Existent Dies (N)</i>							
	2	3	4	5	6	8	11	16
1	100	100	100	100	100	100	100	100
3	25.0	77.8	100	100	100	100	100	100
6	3.1	25.9	61.9	88.5	98.5	100	100	100
10	0.2	5.2	21.9	47.7	72.8	97.2	100	100
15	*	0.7	5.3	17.1	35.6	75.2	98.9	100
20	*	*	1.3	5.7	15.2	47.0	88.7 ~ 100	
30	*	*	*	0.6	2.5	14.1	50.8	95.3
50	*	*	*	*	*	1.0	9.1	50.0
100	*	*	*	*	*	*	*	2.5

\* < 0.1 Percent

From Table 1 it will be noticed that for a constant number of existent dies the probability decreases as the sample increases. On the other hand for a constant sample size as the number of existent dies increases, so does the probability of a missing die turning up. Scanning the table diagonally from upper left to lower right, one notices probabilities of similar values suggesting that the ratio of sample size to existent dies (or vice versa) may act as an important index in gauging the probability of missing dies. This relationship suggests in turn the use of the index figure as defined previously as a probability indicator.

Assume for the moment that among the  $N$  existent dies  $(N - l)$  dies are known or  $k$  is fixed at  $l$ . Then using the definition of the index figure ( $I$ ):

$$(8) S = I(N - l).$$

This additional assumption permits the probability as expressed by equation (7) to be determined approximately for a specific index figure given the number of *known* dies. In contrast to equation (7) alone, the combination of equations (7) and (8) produces insight of real value to

the numismatist. The results of using equation (8) in conjunction with equation (7) are given in Table 2. The specific numerical results will be discussed later; for now, we will note that for a wide range of (known) dies, the index figure is an excellent indicator of the probability of a missing die. Due to the assumption expressed in equation (8), the probability as expressed by equation (7) is the approximate probability that just one die specimen is missing from the sample or  $P = P(k=1 | S, N)$ . Multiple missing dies are excluded. A similar table such as this may have been the basis for the conclusions reached by Marriott, for the results in Table 2 are comparable to those few cases presented by Raven.<sup>6</sup> It is also possible that Marriott may have used the method described in the next section.

TABLE 2  
P ( $k = 1$ ) or Approximate Probability of Just One Missing Die  
(in Percent)<sup>a</sup>

<i>Known Dies (N - 1)</i>		1	2	3	4	5	7	10	15
<i>Index</i>	<i>Figure (I)</i>	1 <sup>b</sup>	2	3	4	5	7	10	15
1 <sup>b</sup>	<b>100</b>	100	100	100	100	100	100	100	100
2	50.0	55.6	61.9	67.7	72.8	80.8	88.7	95.3	
3	25.0	<b>25.9</b>	28.9	32.2	35.5	42.1	50.8	62.6	
4	12.5	11.6	<b>12.5</b>	<b>13.8</b>	<b>15.2</b>	18.1	22.6	30.0	
5	6.2	5.2	5.3	5.8	6.3	<b>7.4</b>	<b>9.1</b>	<b>12.1</b>	
6	3.1	2.3	2.3	2.4	2.5	2.9	3.6	4.7	
7	1.6	1.0	0.95	0.97	1.0	1.2	1.4	1.8	
8	0.78	0.46	0.40	0.40	0.41	0.45	0.54	0.69	
9	0.39	0.20	0.17	0.16	0.16	0.18	0.21	0.26	
10	0.09	0.09	0.07	0.07	0.07	0.07	0.08	0.10	

<sup>a</sup> Bold numbers indicate the threshold at which equations (7) and (9) correspond with negligible significant difference.

<sup>b</sup> The derived values in the first row (100 %) indicate that there is a very high potential for the existence of another die, not that one definitely exists. The same situation exists for Tables 3 and 4.

<sup>6</sup> Raven (above, n. 1), p. 43-44.

## MULTIPLE MISSING DIE PROBABILITIES:

## PART I

The extension of the previous procedure to multiple dies is a more involved process and will not be undertaken until later, and then only briefly. Instead an additional condition will be assumed in order to determine the probability of multiple missing dies.

As indicated by Mood if all the subsets are mutually exclusive, then all the terms in equation (7) beyond the first sum are zero [i.e.  $P(\bar{D}_1 \text{ and } \bar{D}_2) = P(\bar{D}_1 \text{ and } \bar{D}_2 \text{ and } \bar{D}_3) = P(\bar{D}_1 \text{ and } \bar{D}_2 \text{ and } \bar{D}_3 \text{ and } \bar{D}_m) = 0$ , etc]. Under this assumption equation (7) reduces to

$$(9) \quad P(k = 1 | S, N) = N \left[ \frac{(N-1)}{N} \right]^s$$

where  $P(k = 1 | S, N)$  represents the probability that *exactly* one obverse die is not represented in the sample of size  $S$ , assuming

$$P(k \geq 2 | S, N) \text{ or } P(k \geq 2) = 0.$$

Equation (9) could have been derived directly through the use of the Multinomial Distribution.<sup>7</sup> This may have been the approach used initially by Marriott.

As the index figure increases the results of equation (9) approach the values listed in Table 2. Specifically when the index figure is above 4, for series with up to 15 dies, equations (7) and (9) correspond within two significant figures. For short series the necessary index figure is lower. In Table 2 this threshold is indicated by numbers in bold type.

Thus we see that as the index figure increases, equation (9) is a reasonable approximation for  $P(k = 1 | S, N)$  and the assumption of mutually exclusive probabilities becomes increasingly valid. However, at very low index figures the assumption appears to be seriously in error and the results of Table 2 and equation (9) diverge. We will return to this point later.

<sup>7</sup> P. G. Hoel, *Introduction to Mathematical Statistics*, 2nd ed. (New York, 1958), p. 163.

To determine the corresponding probabilities for two, three or more dies, one needs to assume the missing dies are within groupings of such sizes. Then through the use of the Multinomial Theorem the generalized form of the preceding equation is determined to be

$$(10) \quad P(k | S, N) = C_k^N \left[ \frac{N-k}{N} \right]^s$$

where  $P(k | S, N)$  is the probability that exactly  $k$  dies are missing from the sample under the assumption of mutually exclusive probabilities, and  $C_k^N$  is the combinatorial formula of  $C$  combinations of  $N$  dies taken  $k$  at a time. Under these conditions

$$(11) \quad P(k=2 | S, N) = \frac{N(N-1)}{2} \left[ \frac{(N-2)}{N} \right]^s$$

$$(12) \quad P(k=3 | S, N) = \frac{N(N-1)(N-2)}{2 \cdot 3} \left[ \frac{(N-3)}{N} \right]^s$$

and so forth.

The probability  $P(k=2 | S, N)$  or  $P(k=2)$  using equation (11) is summarized in Table 3 as a function of dies known ( $N-2$ ) and the index figure. Once again over a wide span of dies, the index figure is a good indicator of the probability of a second missing die within a coin series. This is particularly true as the index figure reaches 4 to 5, for then  $P(k=2)$  exceeds  $P(k=3)$  by an order of magnitude or more and our assumption of mutually exclusive probabilities is on fairly firm grounds. At low index figures the probability may incorrectly exceed one or 100 percent (for  $I=1$  or 2 dies) due to the weakness of the assumption of mutually exclusive die combinations. In such cases 100 percent was entered into Table 3. A comparison between Tables 2 and 3 indicates that with higher index figures the ratio of  $P(k=1)$  to  $P(k=2)$  increases, again as a result of the validity of the mutually exclusive assumption with higher index figures. Notice that series with an index figure above 7 have very small chance of subsequently producing two new dies. Increasing the index figure to 3, the probability  $P(k=3)$  when the known series consists of approximately 4 or 5 dies is about 5 percent, and it is one-half a percent at an index figure of 4.

Summarizing this section, the assumption of mutually exclusive probabilities allows the use of a single term in calculating multiple

missing die probabilities providing the index figures are relatively high. For index figures above 4 to 5 the resulting probabilities are accurate to within 10 percent or better of the stated values. In most practical cases this is sufficient, particularly in light of our initial assumptions. For cases where the index figure is low (2 or 3) the assumptions of randomness and equality of sample size are the weakest. The results in Table 3 though stated to three figures should at low index figures be held creditable only to one figure. Due to the mutually exclusive assumption, values should be rounded down in value, not up (for example 46.7 and 13.5 percent to 40 and 10 percent respectively).

TABLE 3  
P ( $k = 2$ ) or Probability of Two Missing Dies —  
Mutually Exclusive Assumption (in Percent)

	<i>Known Dies (N - 2)</i>							
<i>Index</i>	1	2	3	4	5	7	10	15
<i>Figure (I)</i>	100	100	100	100	100	100	100	100
1	100	100	100	100	100	100	100	100
2	33.3	37.5	46.7	58.5	72.6	~100	~100	~100
3	11.1	9.4	10.0	11.6	13.5	18.4	27.8	48.7
4	3.7	2.3	2.2	2.3	2.5	3.2	4.5	7.4
5	1.2	0.59	0.47	0.45	0.47	0.54	0.73	1.1
6	0.41	0.15	0.10	0.08	0.08	0.09	0.11	0.17
7	0.14	0.03	0.02	0.02	0.02	0.02	0.02	0.03
8	0.05	≤ 0.01	≤ 0.01	≤ 0.01	≤ 0.01	≤ 0.01	≤ 0.01	≤ 0.01

### MULTIPLE DIE PROBABILITIES:

#### PART II

In those multiple die situations where the assumption of mutually exclusive probabilities is not acceptable, an extension of the procedures outlined in the derivation of equation (6) would in general produce

$$(13) \quad P(k \geq k_a | S, N) = C_{k_a}^N \left[ \frac{(N - k_a)}{N} \right]^s - C_{k_a+1}^N \left[ \frac{(N - k_a - 1)}{N} \right]^s \\ + \dots \pm N \left[ \frac{1}{N} \right]^s$$

where  $k_a$  is the lower bound for  $k$  and  $N - 1$  is the upper bound for  $k$ . Only the first  $N - k_a$  terms are used in calculating  $P$ . Note that when  $k = N - 1$ , as expected, the first and last terms are identical. This relationship can be used to assist in checking the derivation of the individual terms in equation (13).

The application of equation (13) to two or more missing dies is

$$(14) \quad P(k \geq 2 | S, N) = \frac{N(N-1)}{2} \left[ \frac{(N-2)}{N} \right]^s - \frac{N(N-1)(N-2)}{2 \cdot 3} \left[ \frac{(N-3)}{N} \right]^s + \dots \pm N \left[ \frac{1}{N} \right]^s$$

where  $P(k \geq 2 | S, N)$  is the probability that in a series of  $N$  obverse dies two or more dies will be missing from the sample of known coins. In this case,  $k_a = 2$  is the lower bound for  $k$ .

As before, to use equations (13) or (14) effectively an additional condition needs to be imposed. To solve for this new value of  $P(k \geq 2)$ , we assume that the sample size ( $S$ ) is equal to  $I(N-2)$ . The results of equation (14) and this assumption are reported in Table 4. These results are similar to those in Table 3; in fact, when the index figure is above 4 or 5 the results in Tables 3 and 4 are identical. Even when the index figured is 2 or below, the maximum difference between the tables is less than 20 percent of the stated probabilities in Table 3.

TABLE 4

$P(k = 2)$  or Approximate Probability of Two Missing Dies  
(in Percent)<sup>a</sup>

Index Figure (I)	Known Dies (N-2)							
	1	2	3	4	5	7	10	15
1	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
2	<b>33.0</b>	35.9	42.6	50.9	60.3	81.2	~100	~100
3	<b>11.1</b>	9.3	9.8	11.1	12.7	16.7	24.1	39.0
4	<b>3.7</b>	<b>2.3</b>	<b>2.2</b>	<b>2.3</b>	<b>2.5</b>	3.1	4.3	6.9
5	<b>1.2</b>	<b>0.59</b>	<b>0.47</b>	<b>0.45</b>	<b>0.47</b>	<b>0.54</b>	<b>0.73</b>	<b>1.1</b>

<sup>a</sup> Bold numbers indicate identical values in Table 3 and Table 4.

The values in Table 3 will be equal to or larger than those in Table 4 for higher order subsets or die combinations have been counted more than once in Table 3. The approximation symbol ( $\sim$ ) in front of the 100 percent in both Tables 3 and 4 means that the probability is close to this value.

By this time the reader may be wondering which equations or results in this maze are of direct use to the numismatist. In practice, for low index figures ( $I < 4$ ), one could use most effectively the results of this paper by concentrating upon equations (7) and (8) and (14) as reflected in Tables 2 and 4. These tables give the approximate probabilities of the existence of one,  $P(k = 1)$ , and two,  $P(k = 2)$ , missing dies respectively. For higher index values ( $I \geq 4$ ) equations (11) and (12) or the general equation (10) are excellent estimators. Only for the case of a large number of known dies with corresponding low index figure would it be necessary to resort to the more cumbersome higher order terms in equations (7) and (14).

### EXPECTED DIE PRODUCTION

Part of the importance of the index figure, other than the points mentioned in the introduction, is that for a given index figure the probability that a subsequent die(s) will appear is relatively stable over a wide range of known dies. This property makes the index figure an excellent indicator for estimating the number of full-life obverse dies yet to be discovered within a given series.

The expected number of missing dies or in fact the expected value of any function can be defined as the product of the function itself times the probability of this function occurring, summed over all possible cases.<sup>8</sup> Within a given series the expected value of the number of missing dies is nothing more than the mean number of dies expected. As such the expected number of missing dies ( $M$ ) within a given series can be estimated from the following equation.

$$(15) \quad M = \sum_{k=1}^{N-k-1} k \cdot P(k \mid S, N)$$

<sup>8</sup> Hoel (above, n. 7), p. 196.

where  $P(k | S, N)$  or  $P(k)$  is the probability that  $k$  dies are missing from a series of  $(N - k)$  known dies. The expected fractional increase in the size of the series is naturally  $M/(N - k)$  where  $(N - k)$  is a known constant, and the total expected number of missing dies ( $M$ ) within a particular coinage is the sum of  $M$ 's for each series within that coinage.

For equation (15) to produce a meaningful result, it is necessary that the sum of the individual values in this equation converge towards a specific value as  $k$  increases. Therefore, in series

$$(16) \quad M = P(k = 1) + 2 P(k = 2) + 3 P(k = 3) + \dots \\ \dots (N - k - 1) P(k = N - k - 1)$$

each term needs to be smaller than the preceding term. Inspection of Tables 2 and 4 indicates that when the index figure is 1 or 2 the above series does not appear to converge. Under these circumstances all we can say is that the expected number of missing dies is larger than for the first series for which convergence occurs, which appears to be when the index figure is 3. At this juncture the series  $k P(k | S, N)$  converges slowly to values of  $M$  near  $3/4$  to 1 for series up to 7 dies. If the values in Table 3 are used this is probably an upper limit value due to assumptions concerning mutually exclusive probabilities. A lower limit would be  $P(k = 1)$ . It is, therefore, to be expected that when the index figure is 1 or 2, die links are few, series consist usually of one or two coins only, and the number of missing dies is roughly comparable to or larger than the number of known dies. This is the situation Raven noted existed with respect to the early owls of Athens.<sup>9</sup>

When an index figure of 4 or 5 is reached, we can be more confident about the results. In these cases,  $M$  approximates  $1/5$  and  $1/12$ , respectively. Above an index of 5,  $P(k = 1)$  can be used directly as an estimate of  $M$  since the effectiveness of the assumption of mutually exclusive probabilities allows higher order terms to be neglected in computing  $M$ . One further note: in practice one may wish to group several series together in estimating the fractional number of missing dies within a particular coinage. This is permissible if the index figure for each individual series is nearly identical. For example in Raven's article the application of this technique to the entire Olympian coinage would result in deceptively

<sup>9</sup> Raven (above, n. 1), p. 44.

low estimates of the number of missing dies because of the wide variation in the index figure within this series.<sup>10</sup>

## CONCLUSION

The index figure or the average number of coin specimens in a series per obverse die is a very simple indicator. Yet this simple ratio can yield significant insights into the structure of a coin series of which we possess only a part.

Raven, through the assistance of Francis Marriott, discussed briefly the index figure and its relationship to missing die probabilities but did not provide sufficient detail for a thorough understanding of the concept. This paper has reexamined and expanded upon both the basic assumptions underlying the probability analysis and the analysis itself.

The results of this study show that when the average index figure for a coin series is 2 or less, the probability is high (0.50 or greater) that at least one full-life obverse die will subsequently appear. Under these conditions, die links are usually scarce and the associated series are normally very short, so that the number of missing dies is estimated to be at least roughly comparable in size to the number of known dies. For this last statement to be valid, it is assumed that the coinage in question is represented by a reasonable sample consisting of at least several short series, not just a single specimen or two. Little else can be deduced because in point of fact the sample is still too small to draw further conclusions.

As the index figure ( $I$ ) approaches the intermediate values of 3, 4 or 5, the assumption of mutually exclusive probabilities becomes increasingly valid. This can be seen in the increasing values of the ratio  $P(k=1)/P(k=2)$  for increasing  $I$ . In this range the expected number of missing dies per series varies from roughly  $3/4$  to 1 ( $I = 3$ ) to  $1/12$  ( $I = 5$ ) for series of 7 dies or less.

When the index figure is 6 or above, we can place considerable confidence, 95 percent or better, that in a series of up to 15 dies, no further full-life die will appear. As the index figure increases to 8 through 10,

<sup>10</sup> Raven (above, n. 1), p. 46.

the chances are less than one in a hundred to one in a thousand of the appearance of another full-life die. Above this index range of 8 to 10 the probability of a second missing die is minimal, generally less than one in ten thousand.

At these higher index figures, 5 or above, both our assumptions and the resulting theoretical results are more realistic for we are dealing with larger samples.

The generalized probability theorem (equation 7), while of some theoretical interest, is not in itself of direct numismatic value until combined with an additional source of information. At higher index figures, the assumption of mutually exclusive probability suffices. However, many practical problems involve low index figures. To find  $P(k = 1)$  under such conditions we assumed a second relationship (equation 8) which, in retrospect, could be considered effectively to have replaced the exclusive assumption. This procedure was extended to find  $P(k)$  at low index figures ( $I = 2$  or  $3$ ).<sup>11</sup>

<sup>11</sup> The author is indebted to Raymond J. Hebert, Numismatic Department, Smithsonian Institution, for his assistance, to N. Phillip Ross, National Center for Health Statistics (HEW) for his critical review of this manuscript and Daniel H. Lufkin, Systems and Advance Technology Office, National Oceanic and Atmospheric Administration, for verifying the results of Table 1 through an independent computer analysis. Thanks are extended to Ms. B. Sonnefeld and Ms. K. Loughran for typing the manuscript.



## GUIDE FOR CONTRIBUTORS AND LIST OF ABBREVIATIONS

### MANUSCRIPT PREPARATION

All typescripts are to be double spaced with ample margins. Footnotes are to be sequentially numbered, typed double spaced, on separate sheets following the text. All citations should be verified by the author before the article is submitted and the author should retain an up-to-date copy of the submitted manuscript. The author supplies the required photographs, original drawings, graphs, monograms, etc. (for ANS collections a photography order may be submitted with the manuscript). In most instances, the author will be requested to paste up the accompanying photographic plates, if any.

An abstract of the article accepted for publication must also be submitted by the author for inclusion in *Numismatic Literature*.

Authors are accorded the opportunity to read galley proof. For this reason authors are requested to inform the Editor of any plans for extended travel during the relevant period.

This guide deals primarily with the citation of references. The guiding principle is clarity: citations should enable the interested reader to locate the source easily. For other matters of style the editors rely on the University of Chicago, *A Manual of Style*, 12th edition.

### FOOTNOTE CITATION

Footnotes should be kept to the necessary minimum. Each new source not included in the List of Abbreviations below should be cited in full; subsequent references to the same work are cited in the *short form*. To be complete, citations must include the following information:

*For books:*

Author's initial(s), last name  
 Complete title  
 Vol. no., if any  
 Editor, compiler or translator, if any  
 Name of series, vol. no., series no.,  
 if any  
 Edition, if other than the first  
 City, year of publication  
 Page no(s)., etc.

*For journal articles:*

Author's initial(s), last name  
 Title of article  
 Name of journal  
 Series, vol. no., issue no., if any  
 Year of issue  
 Page no(s)., etc.

*For unpublished material* include the title of document (if any) and date; folio number; name of collection; depository and location (city).

*Short form:* Author's last name (above, n. 40), p. 129.

[Reference is to the original citation.]

Use of the *short form* replaces "loc. cit.," "op. cit.," "ibid.," and "idem." For clarity "see also" or "compare" is preferred to the sometimes confusing "cf." Avoid, as well, use of "f.," "ff." and "passim" in page citations.

When an article includes a catalogue, the author should consider inserting a "Key to Abbreviations" at the beginning of the section when the catalogue might otherwise be encumbered by lengthy bibliographical citations.

Use of Roman numerals is limited to references to pages so numbered (in lower case) and to denote volumes in the collections of inscriptions, such as *IG* and *CIL*. In all other instances, regardless of the form appearing in the work cited, Arabic numerals are to be used.

### Books

Works not included in the appended List of Abbreviations should be cited as in the examples that follow. If cited frequently, the first reference to a lengthy title may include the note "Hereafter cited as . . ." When a reprint edition must be used, it is the original work which is cited. Titles in non-Latin characters are transliterated. Capitalization of foreign titles follows the rules of capitalization for normal prose in that language. Foreign titles, other than in the Romance languages and German, may be translated in brackets. Publishers are omitted,

place of publication is given in conventional English form including the country or state if there is possible confusion (Cambridge, Mass., or Cambridge, Eng.).

### *Simplest form*

R. A. G. Carson, *Coins* (London, 1962), pp. 170–72.

### *Later editions, translations, edited works*

- C. Seltman, *Greek Coins*, 2nd ed. (London, 1955), p. 19.  
M. Bloch, *Land and Work in Mediaeval Europe*, trans. J. E. Anderson (London, 1967), p. 125.  
E. P. Newman and R. G. Doty, eds., *Studies on Money in Early America* (New York, 1976).  
R. Kiersnowski, *Pradzieje grasa* [The early history of the groat] (Warsaw, 1975), pp. 280–97.

### *Multiple volumes*

- D. B. Waage, *Antioch-on-the-Orontes*, vol. 4, pt. 2: *Greek, Roman, Byzantine and Crusaders' Coins* (Princeton, 1952), p. 97.  
G. E. Bates, *Sardis*, mono. 1: *Byzantine Coins* (Cambridge, Mass., 1971), p. 129, no. 1150. [Note use of "mono." to distinguish this series from the Excavation Reports.]  
J. F. Loubat, *The Medallic History of the United States of America, 1776–1825*, 1 (New York, 1878), pp. 29–36.  
*The Papers of Alexander Hamilton*, 6, ed. H. Syrett (New York, 1962), pl. 539.

### *Part of series*

- H. A. Cahn, *Knidos*, AMUGS 4 (Berlin, 1970), p. 190.  
P. Balog, *Umayyad, 'Abbāsid and Tūlūnid Glass Weights and Vessel Stamps*, ANSNS 13 (New York, 1976), p. 28.

### *Reference works*

- DAB*, s.v. "Washington, George" (Fitzpatrick).  
*EI<sup>2</sup>*, s.v. "Aflātūn" (Walzer).  
*RE* 22, s.v. "Praeneste," cols. 1550–51 (Redke).  
*CAH* 10, p. 702, n. 1 (Momigliano).

### *Primary sources*

August., *De Civ. D.* 20.2

Plut., *Sull.* 34.4

The ancient primary sources are abbreviated according to *The Oxford Classical Dictionary*, 2nd ed.

### JOURNALS

Journals are cited according to the list of Periodical Abbreviations which appears in *NL*. *Numismatic* journals published annually are cited with the year only; journals having volumes whose parts are sequentially numbered are cited by volume and date only. Journals not included in the *NL* list are cited in full including place of publication.

- B. V. Head, "On the Chronological Sequence of the Coinage of Ephesus," *NC* 1880, pp. 106-7, n. 3.
- D. J. MacDonald, "Aphrodisias and Currency in the East, A.D. 259-305," *AJA* 78 (1974), pp. 279-86.
- G. K. Jenkins, "An Early Ptolemaic Hoard from Phacus," *ANSMN* 9 (1960), pp. 17-37, esp. pp. 33-35.
- T. V. Buttrey, rev. of C. H. V. Sutherland, *Roman Coins*, in *NC* 1975, pp. 235-36.

### NUMISMATIC COLLECTIONS

References to published numismatic collections (BMC, SNG, etc.) are cited in abbreviated form. All abbreviated references, however, are to be clearly identified:

- a. Collections published in multiple volumes with a continuous numbering system are simply noted as *SNGvAulock* 7965.
- b. Other multiple volume collections must identify the appropriate subdivision in addition to the coin number (e.g. *SNGCopMacedonia* 103).
- c. If the numbering system *within each volume* or part is not continuous, further divisions (such as page number, mint or emperor) must be noted (e.g. *BMCRE* 4, p. 198, no. 1235; *BMCTroas*, p. 49, no. 12, or *BMCRE* 4, Antoninus Pius 1235; *BMCTroas Dardanus* 12).

*Sales catalogues* are cited as follows:

Hirsch 68, 3 July 1970, 1555 (or, July 3, 1970, 1555).  
 Ball FPL 26, Mar. 1934, 62.

When the *name of the collection* is necessary to clarify:

Naville 1, 4 Apr. 1921 (Pozzi), 1615.

### ADDITIONAL MATTERS OF STYLE

1. *Transliteration*—Unless written in Latin alphabetic characters or in Greek, foreign words appearing in the text must be transliterated. For

Arabic, the standard system of transliteration is that of the *Encyclopedia of Islam*, 2nd ed., with the following exceptions:

- a. Use j, not dj for *jīm*.
- b. Use q, not ḥ for *qāf*.
- c. Do not underline digraphs such as *th*, *kh*, *sh*, etc.

For Chinese the system of transliteration is that of R. H. Mathews, *A Chinese-English Dictionary*, rev. ed. (Cambridge, Mass., 1950); for Russian it is that of the Library of Congress (C. Beaton, *ALA Cataloging Rules for Author and Title Entries*); for South and Southeast Asian languages and Persian, it is that of the Library of Congress, Cataloging Distribution Service, *Cataloging Service Bulletin* (1976-).

2. *Greek names*—Spelling of Greek personal and place names should be consistent. (A standard reference often consulted in numismatics is *HN*.)
3. *Latin abbreviations*—Latin abbreviations are all set in roman type. However, the word *sic* is set in italic type within brackets.
4. *Italics*—Italics are used for emphasis and with unfamiliar foreign words or phrases.
5. *Tables and charts*—When tables and charts are used to convey information, the author must give attention to the physical dimensions which are limited by the size of the page. Tables are numbered and referred to in the text by that number; titles or captions should be brief. A note is required for data which are taken from another source. Notes to each table are separately identified by the lower-case alphabet without interruption to the sequence of notes to the text.
6. *Dates and numbers*—In general, numbers above ten are expressed in figures; to form their plural add s alone: 650s, not 650's. B.C. dates are all inclusive: 325–324 B.C. rather than 325–24 B.C.; the single year which is not coterminous with a single year in our calendar is noted as 325/4. “Tenth century” is always spelled out in the text; the adjectival form requires a hyphen as in “tenth-century ruler.”
7. *Cross references*—Avoid cross references to specific pages within an article. When necessary such references are indicated by zeros in the text (p. 00) with the appropriate manuscript page number circled in the margin.

## LIST OF ABBREVIATIONS

- ACNAC** — Ancient Coins in North American Collections (New York, ANS).
- AMNG** — *Die antike Münzen Nord-Griechenlands*, unter Leitung von F. Imhoof-Blumer (Berlin, 1898–1935).
- AMUGS** — Antike Münzen und geschnittene Steine (Berlin, 1969–).
- ANS** (with suffix) — American Numismatic Society followed by the appropriate volume or series: *ANSCent (Centennial Publication*, ed. H. Ingholt [New York, 1958]); *ANSNNM* (Numismatic Notes and Monographs); *ANSNS* (Numismatic Studies).
- Artuk** — İbrahim Artuk and Cevriye Artuk, *İstanbul arkeoloji müzeleri teşhirdeki İslâmi sikkeler kataloğu*, 2 vols. (İstanbul, 1970, 1974).
- Beamtennamen** — R. Münsterberg, "Die Beamtennamen auf den griechischen Münzen," *NZ* 1911, p. 69; 1912, pp. 1–111; 1914, pp. 1–98; 1927, pp. 42–105.
- BMC** (with suffix) — The British Museum Catalogue followed by the appropriate volume: *BMCByz* (Byzantine); *BMCLycaonia*; *BMCOr* (Oriental); *BMCVan* (Vandals); *BMCRE* (Roman Empire); *BMCRM* (Roman Medallions); *BMCRR* (Roman Republic).
- BNC** — Paris, Bibliothèque Nationale, *Catalogue des monnaies de l'Empire romain* (Paris, 1976–).
- Brett** — see *MFA*
- CAH** — *The Cambridge Ancient History*, 12 vols. (Cambridge, Eng., 1924–39).
- CERP** — A. H. M. Jones, *The Cities of the Eastern Roman Provinces*, 2nd ed. (Oxford, 1971).
- CIL** — *Corpus Inscriptionum Latinarum* (Berlin, 1893–).
- Cohen** — H. Cohen, *Description générale des monnaies de la République romaine communément appelées médailles consulaires* (Paris, 1857).
- CorNum** — *Corolla Numismatica, Numismatic Essays in Honor of Barclay V. Head*, ed. G. F. Hill (London, 1906).
- Crawford** — M. H. Crawford, *Roman Republican Coinage*, 2 vols. (Cambridge, Eng., 1974).
- CREAM** — C. H. V. Sutherland and C. M. Kraay, *Catalogue of Coins of the Roman Empire in the Ashmolean Museum* (Oxford, 1975).
- CSHB** — *Corpus Scriptorum Historiae Byzantinae*, 51 vols. (Bonn, 1828–97).
- DAB** — *Dictionary of American Biography*, 20 vols., ed. A. Johnson (New York, 1920–37).
- DarSag** — C. Daremberg and E. Saglio, *Dictionnaire des antiquités grecques et romaines*, 5 vols. (Paris, 1875–1919).
- Dattari** — G. Dattari, *Numi Augg. Alexandrini* (Cairo, 1901).
- de Hirsch** — P. Naster, *La Collection Lucien de Hirsch* (Brussels, 1959).
- de Luynes** — J. Babelon, *Catalogue de la collection de Luynes*, 4 vols. (Paris, 1924–36)
- DOC** — *Catalogue of the Byzantine Coins in the Dumbarton Oaks Collection and in the Whittemore Collection*, 3 vols., ed. A. R. Bellinger and P. Grierson (Washington, D.C., 1966–73).

- EI<sup>2</sup>* — *The Encyclopedia of Islam*, new ed. (Leiden/London, 1960–).
- ESM* — E. T. Newell, *The Coinage of the Eastern Seleucid Mints*, ANSNS 1 (New York, 1938).
- Essays Mattingly* — *Essays in Roman Coinage Presented to Harold Mattingly*, ed. R. A. G. Carson and C. H. V. Sutherland (Oxford, 1956).
- Essays Robinson* — *Essays in Greek Coinage Presented to Stanley Robinson*, ed. C. M. Kraay and G. K. Jenkins (Oxford, 1968).
- Essays Thompson* — *Greek Numismatics and Archaeology, Essays in Honor of Margaret Thompson*, ed. O. Mørkholm and N. M. Waggoner (Wetteren, 1979).
- FMRD* — *Die Fundmünzen der römischen Zeit in Deutschland* (Berlin, 1960–).
- GrMünz* — F. Imhoof-Blumer, *Griechische Münzen* (Munich, 1890).
- HCC* — A. S. Robertson, *Roman Imperial Coins in the Hunter Coin Cabinet*, 3 vols. (London/Glasgow/New York, 1962–77).
- HN* — B. V. Head, *Historia Numorum*, new ed. (Oxford, 1911).
- Hunter* — G. MacDonald, *Catalogue of Greek Coins in the Hunterian Collection*, 3 vols. (Glasgow, 1899–1905).
- IG* — *Inscriptiones Graecae*, editio minor, 9 vols. (Berlin, 1924–40).
- IGCH* — *An Inventory of Greek Coin Hoards*, ed. M. Thompson, O. Mørkholm and C. M. Kraay (New York, 1973).
- IGRR* — *Inscriptiones Graecae ad Res Romanas Pertinentes*, ed. R. Cagnat, 4 vols. (Paris, 1906–27).
- Jameson* — R. Jameson, *Collections R. Jameson, monnaies grecques antiques*, 4 vols. (Paris, 1913–32).
- Kaisernamen* — R. Münsterberg, "Die römischen Kaisernamen der griechischen Münzen," NZ 1926, pp. 1–50.
- Khediv* — S. Lane-Poole, *Catalogue of the Collection of Arabic Coins Preserved in the Khedivial Library at Cairo* (London, 1897).
- KlMünz* — F. Imhoof-Bloomer, *Kleinasiatische Münzen*, 2 vols. (Vienna, 1901–2).
- Lavoix* — H. Lavoix, *Catalogue des monnaies musulmanes de la Bibliothèque Nationale*, 3 vols. (Paris, 1887, 1891, 1896).
- LSJ* — *A Greek-English Lexicon*, 2 vols., new ed., comp. H. G. Lidell, R. Scott and H. S. Jones (Oxford, 1940).
- LSJSuppl* — H. G. Lidell, R. Scott and H. S. Jones, *A Greek-English Lexicon, a Supplement*, ed. E. A. Barber (Oxford, 1968).
- McClean* — S. W. Grose, *Catalogue of the McClean Collection of Greek Coins*, 3 vols. (Cambridge, Eng., 1923–29).
- Mélanges* — E. Babelon, *Mélanges numismatiques*, 4 vols. (Paris, 1892–1912).
- MFA* — A. B. Brett, *Catalogue of Greek Coins, Museum of Fine Arts* (Boston, 1955).
- MIB* — W. R. O. Hahn, *Moneda Imperii Byzantinii* (Vienna, 1973–).
- Mionnet* — T. E. Mionnet, *Description de médailles antiques, grecques et romaines*, 7 vols. (Paris, 1806–13).
- MonnGr* — F. Imhoof-Blumer, *Monnaies grecques* (Amsterdam, 1883).
- Münsterberg — see Beamennamen and Kaisernamen.

- OGIS* — *Orientis Graeci Inscriptiones Selectae*, ed. W. Dittenberger (Hildesheim, 1960).
- RE* — *Pauly's Real-Encyclopädie der classischen Altertumswissenschaft*, neue Bearbeitung herausgegeben von Georg Wissowa (Stuttgart, 1894–).
- RGA* — W. H. Waddington, *Recueil général des monnaies d'Asie Mineure*, 4 fasc., cont. and comp. E. Babelon and T. Reinach (Paris, 1904–12).
- RIC* — H. Mattingly and E. A. Sydenham, *The Roman Imperial Coinage*, 9 vols. (London, 1923–).
- RRAM* — D. Magie, *Roman Rule in Asia Minor* (Princeton, 1950).
- RRCH* — M. H. Crawford, *Roman Republic Coin Hoards* (London, 1969).
- Sabatier — J. Sabatier, *Description générale des monnaies byzantines*, 2 vols. (Paris/London, 1862).
- SEG* — *Supplementum Epigraphicum Graecum* (Leiden, 1924).
- SEH* — M. Rostovtzeff, *The Social and Economic History of the Hellenistic World*, 3 vols. (Oxford, 1941).
- SEHRE* — M. Rostovtzeff, *The Social and Economic History of the Roman Empire* (Oxford, 1926).
- SIG* — *Sylloge Inscriptionum Graecarum*, ed. W. Dittenberger, 3rd ed. (Leipzig 1915–24).
- SNG* (with suffix) — *Sylloge Nummorum Graecorum* followed by the appropriate volume: *SNGANS* (American Numismatic Society); *SNGvAulock* (von Aulock); *SNGCop* (Copenhagen); *SNGFitz* (Fitzwilliam Museum).
- Syd — E. A. Sydenham, *The Coinage of the Roman Republic* (London, 1952).
- Tolstoi — J. Tolstoi, *Monnaies byzantines*, 4 vols. (St. Petersburg, 1912–14).
- Traité — E. Babelon, *Traité des monnaies grecques et romaines*, pt. 2, 4 vols. (Paris, 1907–32).
- Waddington — E. Babelon, *Inventaire de la collection Waddington* (Paris, 1897).
- Weber — L. Forrer, *Descriptive Catalogue of the Collection of Greek Coins Formed by Sir Hermann Weber*, 3 vols. (London, 1922–29).
- WSM — E. T. Newell, *The Coinage of the Western Seleucid Mints*, ANSNS 4 (New York, 1941).

# **PLATES**

## Plate 1



2



1



2



3



4



5



6



6



7



8



William P. Wallace Collection

## Plate 2



9



10



10



11



12



12



13



14



14



15



16



17



18



William P. Wallace Collection

## Plate 3



Kuft Hoard

## Plate 4



Tarik Darreh Hoard

## Plate 5



Tarik Darreh Hoard

## Plate 6



1



2



3



4



5



Early Cistophoric Coinage

## Plate 7



15



87



93

(CM. 2/9)

(CM. 20, 10/“h”)

(CM. 1, 12)



94



95



97

(CM. 5, 26)

(CM. 7)

(CM. 18)



100



103



105

(CM. 16/2?)

(CM. unid., 13)

(CM. unid./9)



106



108



114

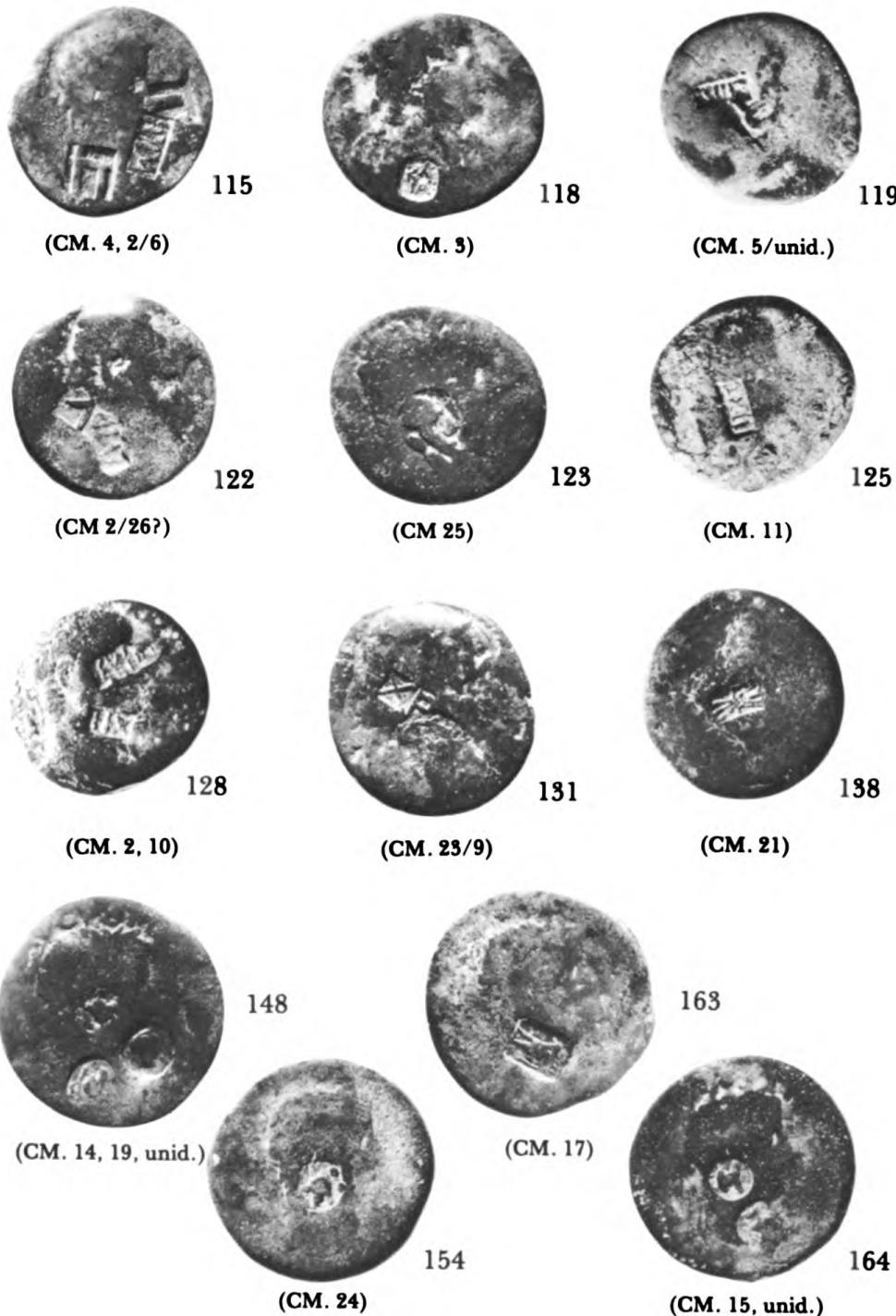
(CM. 9/2)

(CM. 8)

(CM. 22)

Hoard from Syria Countermarked by the Roman Legions

## Plate 8



Hoard from Syria Countermarked by the Roman Legions

## Plate 9



2 (2x)



1



3 (2x)



4



5

Iantinum Mint

## Plate 10



6



7



8



9



10



11



12



13



14



15



Iantinum Mint

## Plate 11



16



17

Iantinum Mint

## Plate 12



Three Byzantine Gold Hoards

## Plate 13



3.8



3.9



3.14



3.22



3.24



3.26



3.27



3.35



3.37



3.41



3.44



3.50



Three Byzantine Gold Hoards

## Plate 14



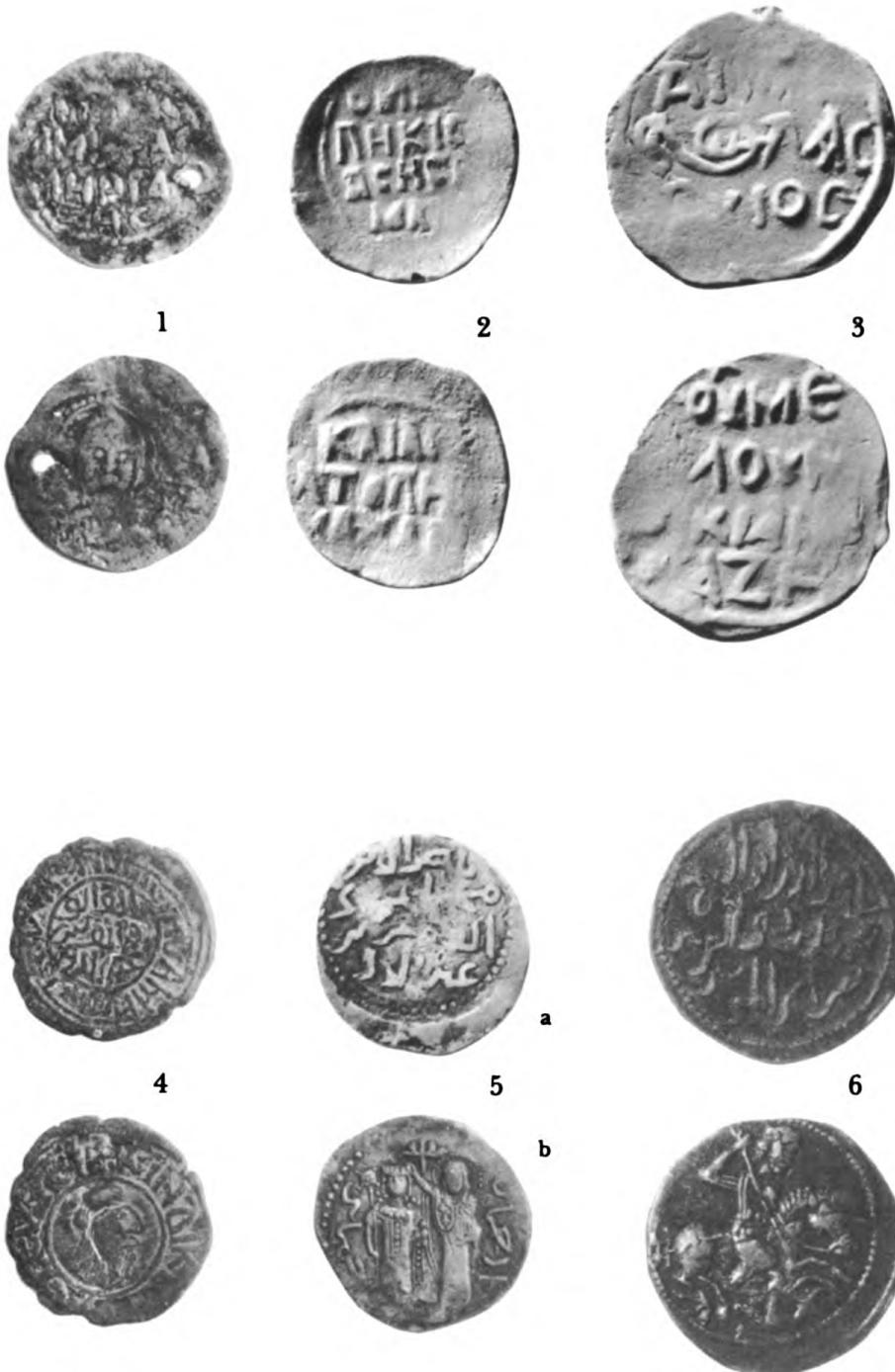
Bull/Trisula Coin Issues

## Plate 15



Bull/Trisula Coin Issues

## Plate 16



Danishmendid Figured Copper Coins  
(size approximate)

## Plate 17



a



7



9



b



8



10



11



a



b



12



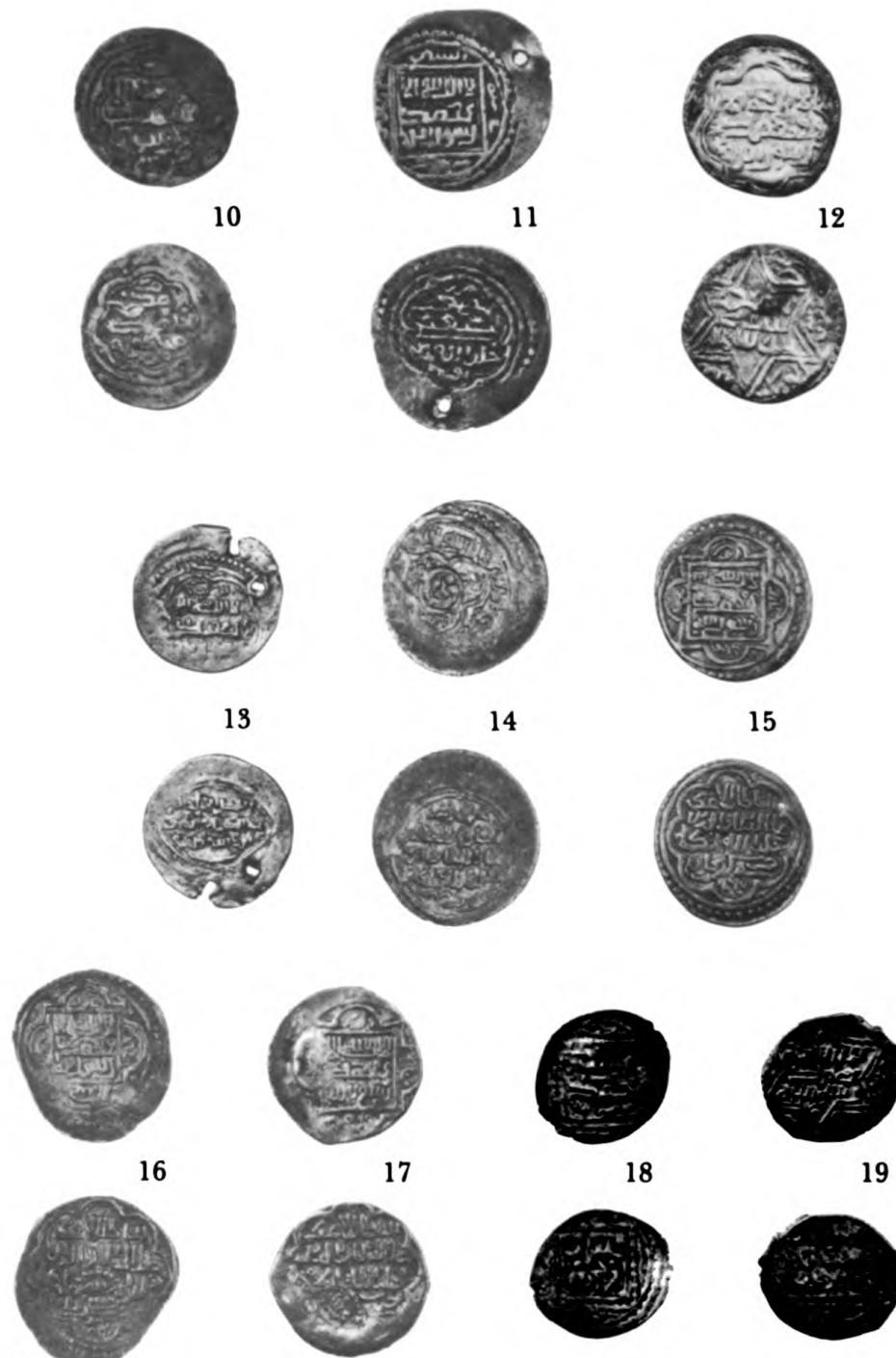
Danishmendid Figured Copper Coins  
(size approximate)

## Plate 18



Fourteenth Century Anatolian Coinage

## Plate 19



Fourteenth Century Anatolian Coinage

## Plate 20



Fourteenth Century Anatolian Coinage

## Plate 21



Bolivian Monetary Medal

## Plate 22



9



11



10



12



13



15

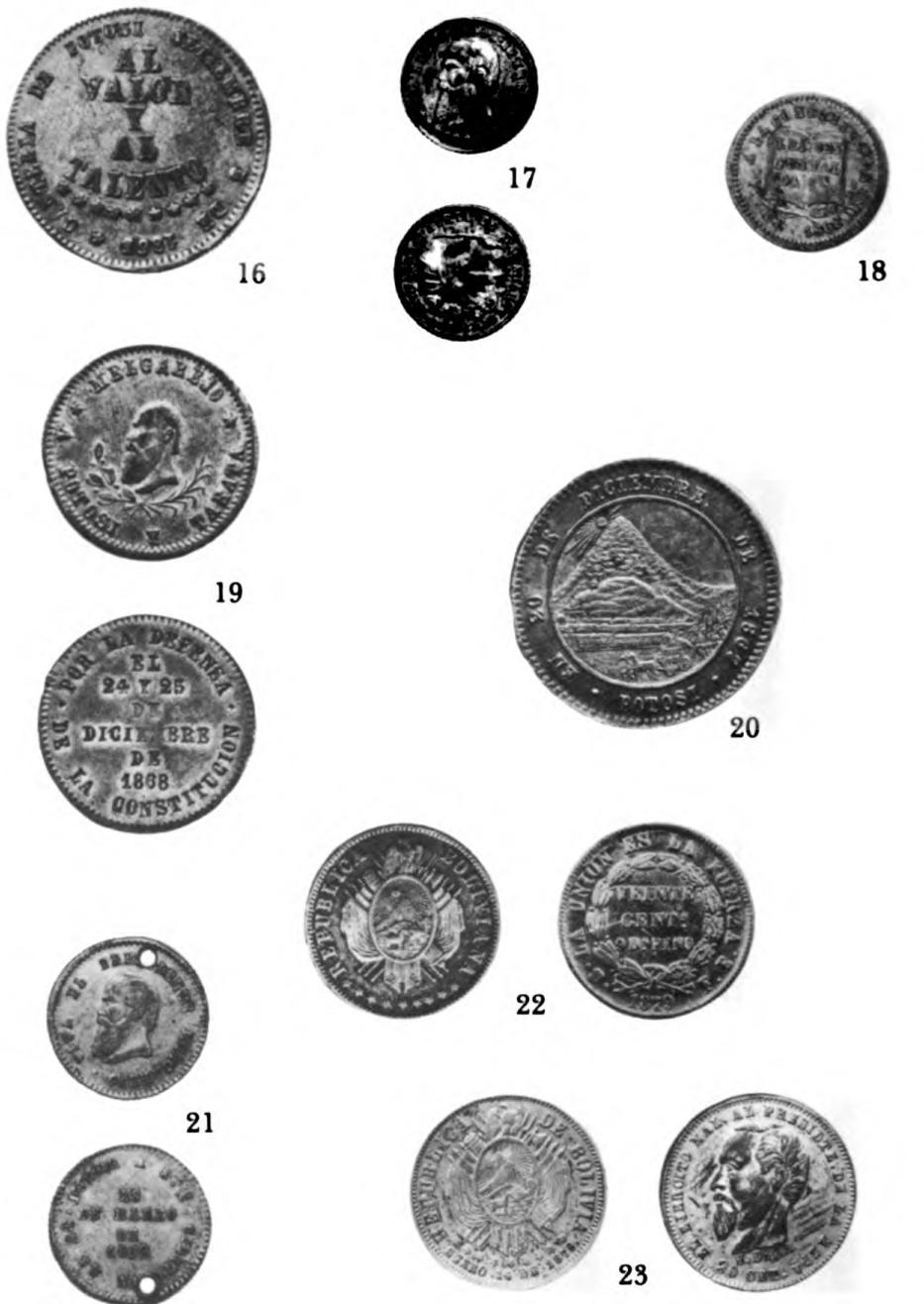


14



Bolivian Monetary Medal

## Plate 23



Bolivian Monetary Medal



L







